

## RESOURCE ALLOCATION REVIEW BOARD



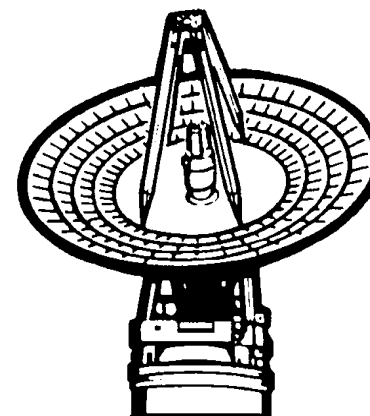
# Resource Contention

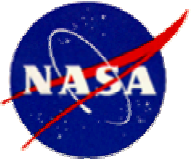
Version 2.0 Final

2005 - 2014

Napoleon Lacey

August 10, 2004



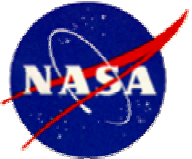


# RESOURCE ALLOCATION REVIEW BOARD



## Agenda

- ◆ Loading Study
- ◆ Periods of Contention
- ◆ Events, Recommendations and Analyses

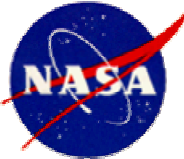


# **RESOURCE ALLOCATION REVIEW BOARD**



## **Loading Study**

- ◆ **Project Changes**
- ◆ **New and Deleted Projects**
- ◆ **Changes in DSN Resource Support Request**
- ◆ **DSN User / Mission Planning Set**
  - **Ongoing / Approved Projects**
  - **Advanced / Planning Projects**
- ◆ **Major DSN Downtimes by Date**
- ◆ **IND Resource Implementation Planning Matrix**



# **RESOURCE ALLOCATION REVIEW BOARD**

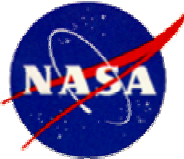
## **Loading Study**



### **Project Changes Since February 2004 RARB**

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- ◆ **Advanced Composition Explorer**
  - End of extended mission changed from 09/30/07 to 09/30/10
  
- ◆ **Dawn**
  - End of prime mission changed from 07/26/15 to 01/12/16
  
- ◆ **European VLBI Network (EVN)**
  - EVN supports are incorporated into European and Global VLBI Systems (EGS)
  
- ◆ **Geotail**
  - End of extended mission changed from 12/31/08 to 9/30/06
  
- ◆ **Gravity Probe B**
  - End of extended mission changed from TBD to 11/01/05
  
- ◆ **Hayabusa (MUSES-C)**
  - End of prime mission changed from 06/05/07 to 06/10/07
  
- ◆ **IMAGE**
  - End of extended mission changed from 09/30/07 to 09/30/10



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Loading Study**



### **Project Changes Since February 2004 RARB**

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#### **◆ Mars Odyssey 2001**

- End of extended mission changed from 05/29/08 to 11/30/08

#### **◆ MESSENGER**

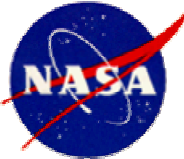
- Launch date changed from 05/11/04 to 08/03/04
- End of prime mission changed from 04/06/10 to 03/19/12

#### **◆ New Horizons**

- Launch date changed from 01/10/06 to 01/11/06

#### **◆ Opportunity (MER1)**

- End of extended mission changed from 06/15/04 to 09/30/04
- An extension to 10/08/05 has been proposed to NASA headquarters
- Uplink and Downlink MSPA passes will be determined during the Mid-Range scheduling process



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## **Loading Study**

### **Project Changes Since February 2004 RARB**



#### **◆ Phoenix**

- Launch date changed from 08/09/07 to 08/03/07
- End of prime mission changed from 11/04/08 to 10/26/08

#### **◆ Space Interferometry Mission**

- End of prime mission changed from 06/30/20 to 08/30/20

#### **◆ Spirit (MER2)**

- End of extended mission changed from 06/15/04 to 09/30/04
- An extension to 10/08/05 has been proposed to NASA headquarters
- Uplink and Downlink MSPA passes will be determined during the Mid-Range scheduling process

#### **◆ Stardust**

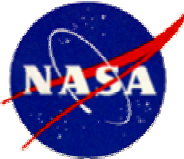
- End of prime mission changed from 01/14/06 to 02/15/06

#### **◆ Ulysses**

- End of extended mission changed from 03/31/08 to 09/30/06

#### **◆ Voyager 1**

- End of extended mission changed from 09/30/07 to 09/30/06



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## **Loading Study**

### **Project Changes Since February 2004 RARB**



#### **◆ Voyager 2**

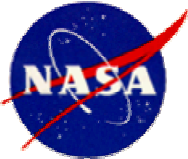
- End of extended mission changed from 09/30/07 to 09/30/06

#### **◆ Wilkinson Microwave Anisotropy Probe**

- End of extended mission changed from 10/01/07 to 09/30/08

#### **◆ WIND**

- End of extended mission changed from 12/31/08 to 09/30/05



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Loading Study**

### **JPL Changes in DSN Resource Support since February 2004 RARB**

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#### **◆ Chandra**

- Added one 7-hour ACA Dark Current measurement support 3 times a year

#### **◆ Dawn**

- Launch support in 2006, mid-June through early July increased to continuous coverage on the 34M subnets

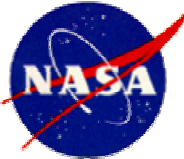
#### **◆ DSN Antenna Calibrations**

- 34BWG1 & 34BWG2 Ka-band Antenna Calibrations increased from two 8-hour supports per quarter to four 8-hour supports per quarter per antenna

#### **◆ DSS Maintenance**

- DSS-16 Added 4 hours of Antenna Phasing after Maintenance
- DSS-25 Maintenance day changed from Friday to Wednesday
- DSS-46 & 66 Maintenance increased from 6 to 8 hours followed by 4 hours of Antenna Phasing
- DSS-34 & 45 Routine Maintenance increased from 6 hours to 8 hours
- DSS-55 Maintenance day changed from Friday to Monday





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## **Loading Study**

### **JPL Changes in DSN Resource Support since February 2004 RARB**

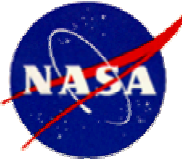
#### **◆ GSSR**

##### **2005**

- Added one 7-hour Mars Radar support per week at DSS-14/25 with Arecibo in late October through November
- Added six 3-hour Mercury RSD (Radar Speckle Displacement) supports at DSS-14 with GBT (Green Bank Telescope) in mid-March and early June
- Added six 3-hour Mercury RSD supports at DSS-14 with Arecibo in early September
- Added two 2-hour Mercury supports per week at DSS-14 with Arecibo from mid to late March
- Added eight 7-hour Lunar Pole DSS-14/15 supports for late April to September
- Added three 3-hour Venus RSD supports per week at DSS-14 with GBT from early October to mid-September

##### **2006**

- Added eight 8-hour Asteroid 2004 DC supports at DSS-14 in early June
- Added four 2-hour Mercury Radar supports at DSS-14 with Arecibo in early March
- Added seven 3-hour Mercury RSD supports at DSS-14 with GBT in early July and 6 in early August
- Added five 3-hour Mercury RSD supports at DSS-14 with Arecibo in early September
- Added three 3-hour Venus RSD supports per week at DSS-14 with GBT in late January to mid-March



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## **Loading Study**

### **JPL Changes in DSN Resource Support since February 2004 RARB**

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#### **◆ GSSR**

##### **2007**

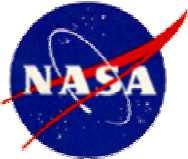
- Added three 8-hour Asteroid 1862 Apollo supports at DSS-14 in mid-May
- Added seven 3-hour Mars RSD supports at DSS-14 with GBT in late June and 6 for early August
- Added nine 3-hour Mars RSD supports at DSS14 with Arecibo in late August

##### **2008**

- Added six 8-hour Asteroid 1998 UO1 supports at DSS-14 in late September to early October
- Added five 8-hour Asteroid 2000 DP10 supports at DSS-14 in mid-September
- Added six 8-hour Asteroid 2001 SN26 supports at DSS-14 in late February
- Added seven 8-hour Asteroid 2003 YE45 supports at DSS-14 in mid-July

##### **2009**

- Added six 8-hour Asteroid 1998 FW4 supports at DSS-14 in mid-October
- Added three 8-hour Asteroid 1999 AP10 supports at DSS-14 in early November
- Added three 8-hour Asteroid 2000 CO10 supports at DSS-14 in late September
- Added seven 8-hour Asteroid 2001 CV26 supports at DSS-14 in mid-December



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## **Loading Study**

### **JPL Changes in DSN Resource Support since February 2004 RARB**

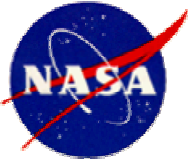
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#### **◆ Mars Odyssey**

- Added 7 passes per week at 34M,70M for THEMIS augmentation during November and December, 2005
- Added 7 passes per week at the 70M for THEMIS during January through April, 2006
- Added 1 Delta-DOR at DSS-14\43 and 1 Delta-DOR at DSS-14\63 per week for PHX Navigation during April, 2007 through May, 2008
- Added 7 passes per week at 34M,70M for THEMIS augmentation during late November through December, 2007
- Added 7 passes per week at the 70M for THEMIS during January through early May, 2008
- Added 7 – 21 passes per week at 34M,70M for PHX UHF Relay during April through November, 2008

#### **◆ Mars Express**

- Added 7 passes per week at a Goldstone 70M or 34M antenna for Orbital Science during early-May to mid-September, 2006, early December 2006 to late April 2007 and early June 2007 to August 2008



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## Loading Study

### **JPL** Changes in DSN Resource Support since February 2004 RARB

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#### ◆ Reference Frame Calibrations

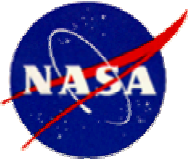
- Added one 6-hour X/Ka-band DSS-25 or 26\DSS-34 support every six weeks
- Added one 6-hour X/Ka-band DSS-25 or 26\DSS-55 support every six weeks
- Added one 24-hour X/Ka-band CAT M&E (Catalog Maintenance & Enhancement) support at the DSS-25 or 26\DSS-34 every six weeks
- Added one 24-hour X/Ka-band CAT M&E DSS-25 or 26\DSS-55 support every six weeks

#### ◆ SOHO

- Added 70 meter support in February 21 – March 5, 2007 for Keyhole event
- Added 70 meter support in May 22 – May 31, 2007 for Keyhole event
- Added 70 meter support in August 20 – September 1, 2007 for Keyhole event
- Added 70 meter support in November 19 – November 28, 2007 for Keyhole event
- Moved HSO Continuous support to September 10 – November 12, 2007

#### ◆ Spitzer Space Telescope

- Changed 34M passes to the 70M subnet from April 24, 2006 to October 19, 2008 (EOEM)



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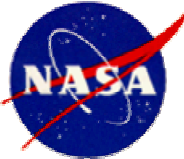
## **Loading Study**

### **JPL Changes in DSN Resource Support since February 2004 RARB**

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#### **◆ Stardust**

- Increased 34M support to near continuous for TCM's during mid-November to late December, 2005
- Increased 34M support to continuous and added 4 dual supports for Earth Entry during early January to mid-January, 2006
- Added 2 passes per day for Post Earth Relay during mid-January to mid-February, 2006 (EOPM)



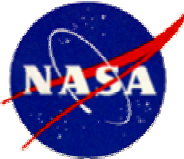
# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### DSN User / Mission Planning Set

#### – Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
DSN Antenna Calibration	DSN	--	--	--
DSS Maintenance	DSS	--	--	--
European and Global VLBI Systems (European VLBI Network)	EVN	--	--	--
Ground Based Radio Astronomy	GBRA	--	--	--
Reference Frame Calibration	DSN	--	--	--
Space Geodesy	SGP	--	--	--
Voyager 2	VGR2	08/20/77	10/15/89	09/30/06
Voyager 1	VGR1	09/05/77	12/31/80	09/30/06
Goldstone Solar System Radar	GSSR	04/01/85	--	--
Ulysses	ULYS	10/06/90	09/11/95	09/30/06
Geotail	GTL	07/24/92	07/24/95	09/30/06
Wind	WIND	11/01/94	11/01/97	09/30/05
SOHO	SOHO	12/02/95	05/02/98	12/31/08
Polar	POLR	02/22/96	08/23/97	09/30/05
Gravity Probe B (non Spacecraft support)	GPB	06/01/96	05/30/05	11/01/05
Mars Global Surveyor	MGS	11/07/96	02/01/01	01/03/08
Advance Composition Explorer	ACE	08/25/97	02/01/01	09/30/10



# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### DSN User / Mission Planning Set

#### – Ongoing / Approved Projects (continued) –

Project	Acronym	Launch or Start	EOPM	EOEM
Cassini	CAS	10/15/97	06/30/08	06/30/10
Stardust	SDU	02/07/99	02/15/06	- - -
Chandra X-ray Observatory	CHDR	07/23/99	07/24/09	07/24/14
Imager for Magnetopause-to-Aurora Global Exploration	IMAG	03/25/00	05/30/02	09/30/10
Cluster 2 - S/C #2 (Samba)	CLU2	07/16/00	02/15/03	02/28/06
Cluster 2 - S/C #3 (Rumba)	CLU3	07/16/00	02/15/03	02/28/06
Cluster 2 - S/C #1 (Salsa)	CLU1	08/09/00	02/15/03	02/28/06
Cluster 2 - S/C #4 (Tango)	CLU4	08/09/00	02/15/03	02/28/06
Mars Odyssey 2001	M01O	04/07/01	08/24/04	11/30/08
Wilkinson Microwave Anisotropy Probe	WMAP	06/30/01	10/01/03	09/30/08
Genesis	GNS	08/08/01	09/08/04	- - -
Advanced Tracking and Observational Techniques (ATOT)	MEGA	02/01/02	12/31/08	- - -
International Gamma Ray Astrophysics Lab	INTG	10/17/02	12/18/04	12/31/08
Hayabusa (MUSES - C)	MUSC	05/09/03	06/10/07	- - -
Mars Express Orbiter	MEX	06/02/03	02/11/06	08/03/08
Spirit (Mars Exploration Rover - A)	MER2	06/10/03	04/06/04	10/08/05
Opportunity (Mars Exploration Rover - B)	MER1	07/07/03	04/27/04	10/08/05



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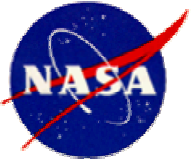
### DSN User / Mission Planning Set

#### – Ongoing / Approved Projects (continued) –

Project	Acronym	Launch or Start	EOPM	EOEM
Spitzer Space Telescope (SIRTF)	STF	08/25/03	02/25/06	10/19/08
Rosetta	ROSE	02/26/04	12/31/15	---
Messenger	MSGR	08/03/04	03/19/12	---
Deep Impact	DIF	12/30/04	08/05/05	---
Mars Reconnaissance Orbiter	MRO	08/10/05	12/31/10	12/31/15
New Horizons	NHPC	01/11/06	04/17/16	TBD
Lunar - A	LUNA	TBD	TBD	---
Stereo Ahead	STA	02/11/06	05/16/08	---
Stereo Behind	STB	02/11/06	05/16/08	---
Space Technology 5 *	ST5	03/01/06	05/30/06	TBD
Dawn	DAWN	06/17/06	01/12/16	TBD

\* Mission requirements was not considered in the RARB analysis





# RESOURCE ALLOCATION REVIEW BOARD

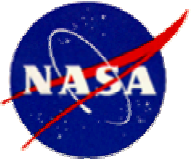
## Loading Study

### DSN User / Mission Planning Set

#### – Advanced / Planning Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Venus Express **	VEX	10/26/05	08/19/07	TBD
SELENE **	SELE	01/15/06	05/30/06	TBD
Kepler	KEPL	06/07/07	07/01/11	TBD
Phoenix	PHX	08/03/07	10/26/08	TBD
Mars Telecommunications Orbiter 2009	MTO	09/07/09	09/07/16	09/07/20
Mars Science Laboratory 2009	MSL	10/25/09	03/04/12	TBD
Space Interferometry Mission	SIM	02/14/10	08/30/20	TBD
James Webb Space Telescope	JWST	08/01/11	07/31/16	TBD
Mars Placeholder 2011	M11L	10/30/11	09/10/14	TBD
Mars Placeholder 2013	M13O	11/28/13	08/21/16	TBD

**\*\* DSN Support may not be required for these missions and the requirements were not considered in the RARB analysis**



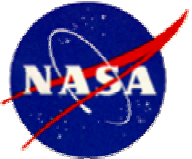
# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### DSN Major Downtimes by Date

– 2004 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 14	Antenna Controller Replacement	07/07/2004	12/07/2004	154	28 - 50	189	342
DSS 14	Hydrostatic Bearing	07/07/2004	12/07/2004	154	28 - 50	189	342
DSS 14	NIB - NSP Testing	07/07/2004	12/07/2004	154	28 - 50	189	342
DSS 46	26M Performance & Reliability Maint.	08/01/2004	08/04/2004	3	31 - 32	214	216
DSS 45	Life Extension	08/09/2004	12/05/2004	119	33 - 49	222	340
DSS 16	26M Performance & Reliability Maint.	08/10/2004	08/13/2004	3	33 - 33	223	225
DSS 66	26M Performance & Reliability Maint.	08/17/2004	08/20/2004	3	34 - 34	230	232
DSS 14	NIB - USC Installation	09/20/2004	10/03/2004	14	39 - 40	264	277
DSS 45	NIB - USC Installation	11/22/2004	12/05/2004	14	48 - 49	327	340

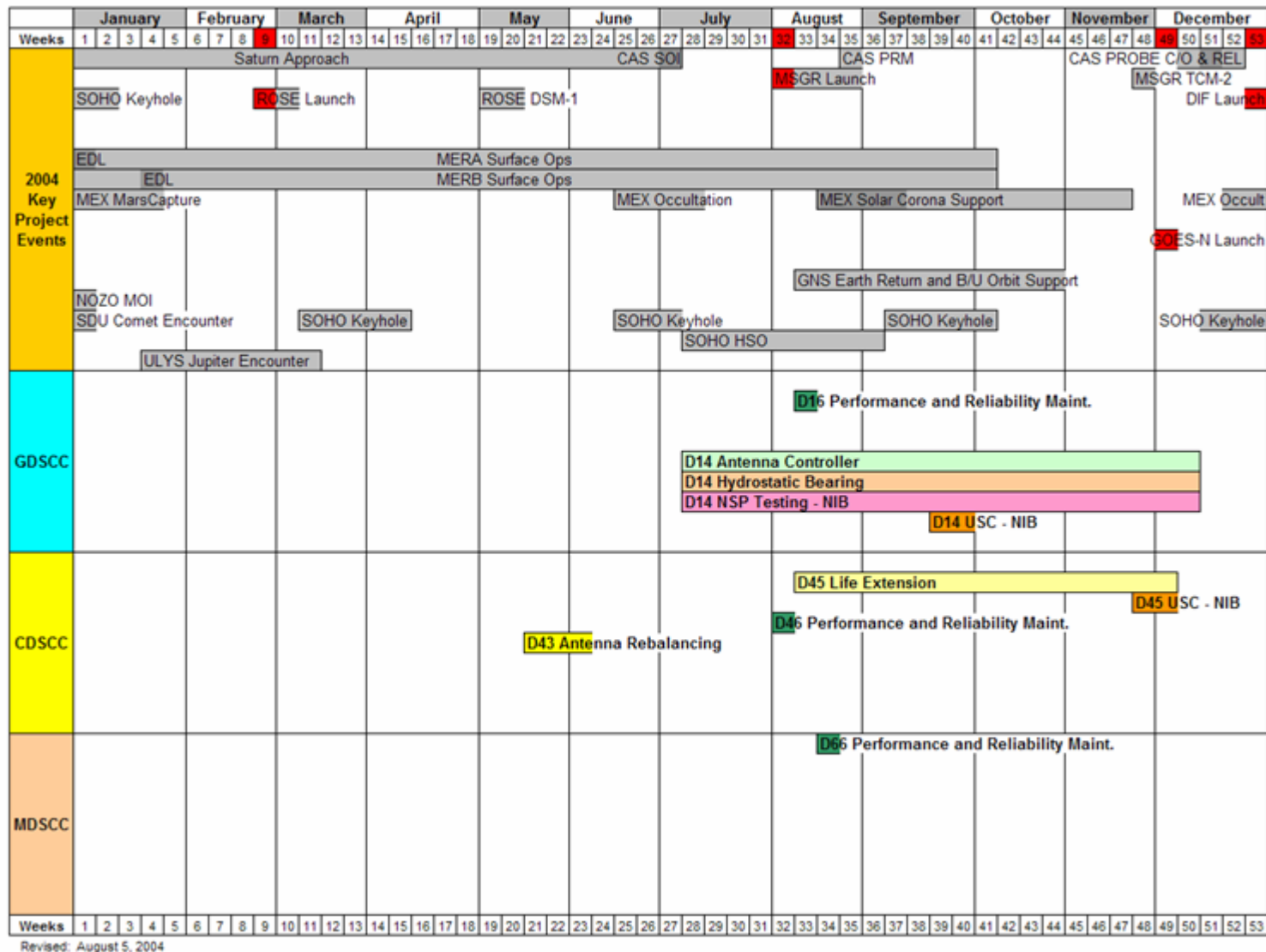


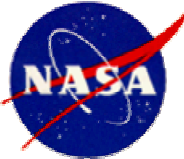
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### DSN Major Downtimes by Date

– 2004 –





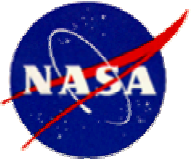
# RESOURCE ALLOCATION REVIEW BOARD

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### DSN Major Downtimes by Date

– 2005 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 27	NSP Implementation	01/03/2005	01/30/2005	28	01 - 04	003	030
DSS 27	NIB - USC Installation	01/10/2005	01/23/2005	14	02 - 03	010	023
DSS 63	USC Installation	01/17/2005	01/30/2005	14	03 - 04	017	030
DSS 26	USC Installation	01/24/2005	02/06/2005	14	04 - 05	024	037
DSS 65	Antenna Controller Replacement	01/31/2005	07/03/2005	154	05 - 26	031	184
DSS 65	NIB - USC Installation	01/31/2005	02/06/2005	7	05 - 05	031	037
DSS 65	Relocation	01/31/2005	07/03/2005	154	05 - 26	031	184
DSS 65	Life Extension	01/31/2005	07/03/2005	154	05 - 26	031	184
DSS 34	X/X-Ka Band	02/15/2005	04/10/2005	55	07 - 14	046	100
DSS 34	NIB - USC Installation	02/15/2005	03/06/2005	20	07 - 09	046	065
DSS 34	NIB - Azimuth Idler Bearing	02/15/2005	04/10/2005	55	07 - 14	046	100
DSS 15	USC Installation	04/25/2005	05/08/2005	14	17 - 18	115	128
DSS 25	USC Installation	05/30/2005	06/12/2005	14	22 - 23	150	163
DSS 24	USC Installation	06/27/2005	07/03/2005	7	26 - 26	178	184
DSS 55	USC Installation	07/04/2005	07/10/2005	7	27 - 27	185	191
DSS 54	USC Installation	07/11/2005	07/16/2005	6	28 - 28	192	197
DSS 43	Antenna Controller Replacement	07/18/2005	01/01/2006	168	29 - 52	199	001



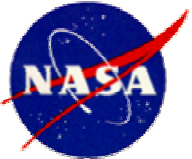
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### DSN Major Downtimes by Date

– 2005 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 43	NIB - USC Installation	07/18/2005	07/31/2005	14	29 - 30	199	212
DSS 43	Hydrostatic Bearing	07/18/2005	01/01/2006	168	29 - 52	199	001
DSS 15	Antenna Controller Replacement - <b>PROPOSED</b>	09/12/2005	11/20/2005	70	37 - 46	255	324

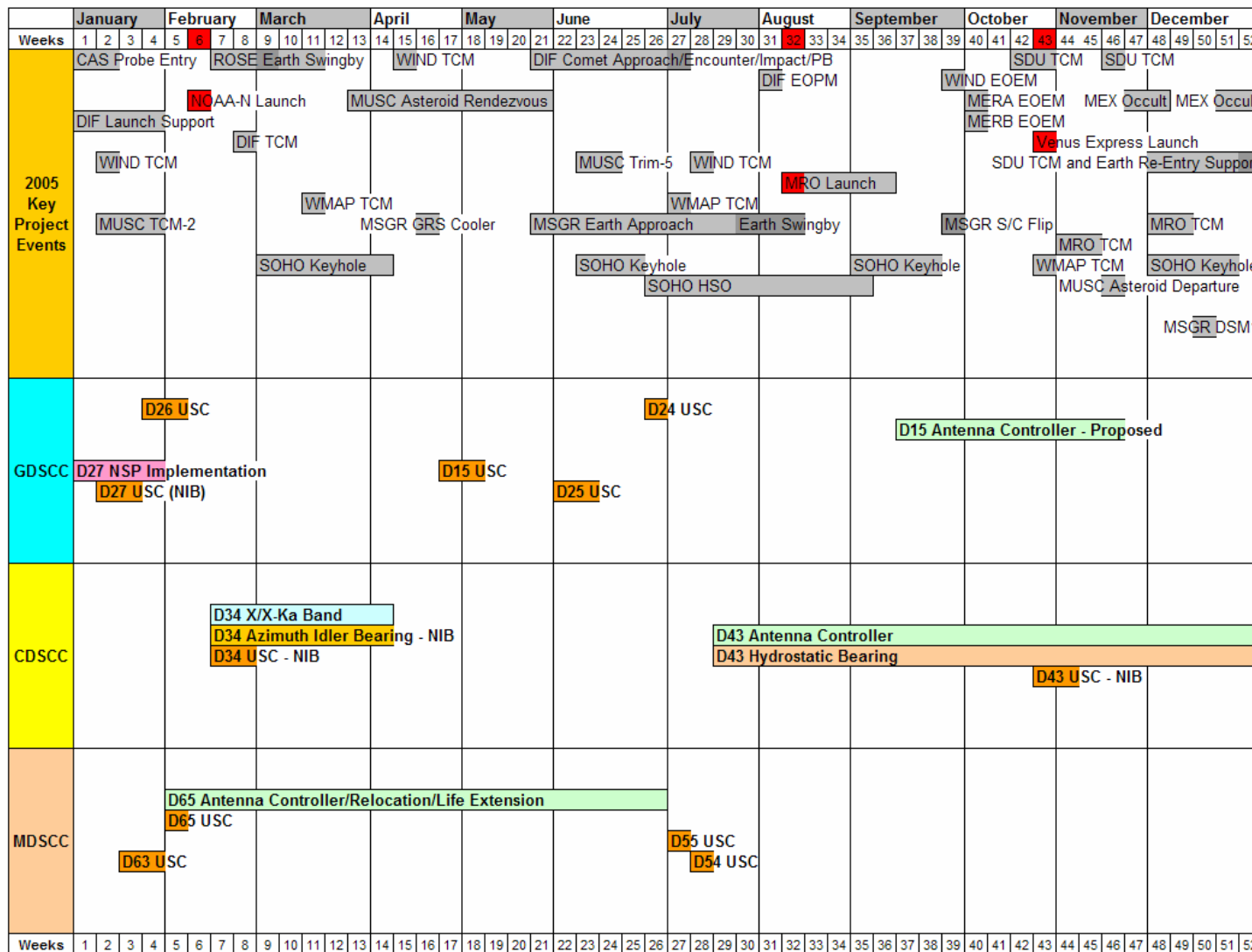


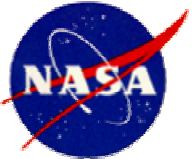
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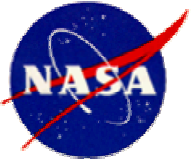
Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 63	Antenna Controller Replacement	05/22/2006	09/03/2006	105	21 - 35	142	246
DSS 24	X/X-Ka Band	09/04/2006	10/22/2006	49	36 - 42	247	295
DSS 45	Antenna Controller Replacement	10/09/2006	12/10/2006	63	41 - 49	282	344



## DSN Major Downtimes by Date

	January				February				March				April				May				June				July				August				September				October				November				December							
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2006 Key Project Events	MRO Approach/TCM-3/MOI												MRO Aerobraking																								Prime Science / Solar Conjunction				MRO Mapping											
	SDU Earth Re-entry/TCM-19/Recovery/TCM-20/EOM																				MSGR S/C Flip						MSGR S/C Flip						MSGR Venus Approach and Flyby #1																			
	New Horizons Launch								MUSC TCM-3												ST5 Launch				ST5 EOPM												LUNA LOI				LUNA EOPM								MEX Solar Corona			
									WMAP TCM																												GTL EOEM															
									MEX EOEM				CLU2 EOEM																								ULYS EOEM															
	SELENE Launch																										NHPC Flyby Rehearsal												VGR1 EOEM													
									STEREO Ahead Launch																												VGR2 EOEM															





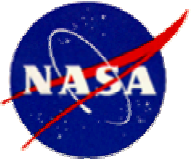
# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### DSN Major Downtimes by Date

– 2007 –

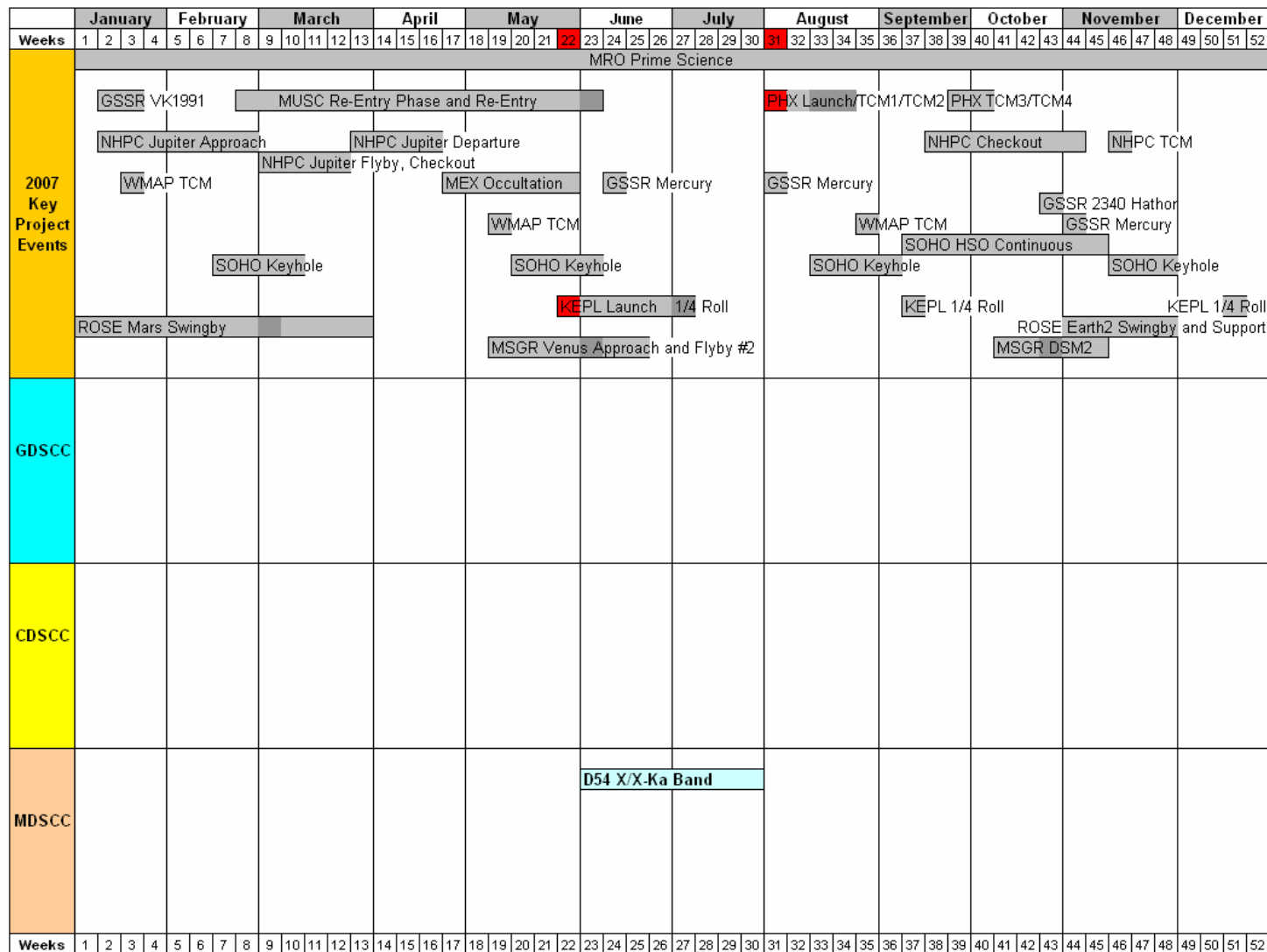
Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 54	X/X-Ka Band	06/04/2007	07/29/2007	56	23 - 30	155	210



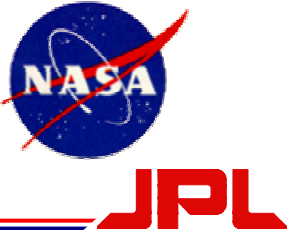
# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### DSN Major Downtimes by Date



Revised: July 28, 2004



# RESOURCE ALLOCATION REVIEW BOARD

## Loading Study

### IND Resource Implementation Planning Matrix

#### DSN Resource Implementation Planning Matrix by Complex

Complex	Station	Subnet	S-Band		X-Band		Ka-Band		NSP
			Down	Up	Down	Up	Down	Up	
10	DSS-14	70M	✓	✓	✓	✓	N/A	N/A	✓
10	DSS-15	34HEF	✓	N/A	✓	✓	TBD	N/A	✓
10	DSS-16	26M	✓	✓	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	✓	✓	✓	✓	10/23/06	N/A	✓
10	DSS-25	34B2	N/A	N/A	✓	✓	✓	✓	✓
10	DSS-26	34B2	N/A	N/A	✓	✓	✓	N/A	✓
10	DSS-27	34HSB	✓	✓	N/A	N/A	N/A	N/A	01/31/05
40	DSS-34	34B1	✓	✓	✓	✓	04/11/05	N/A	✓
40	DSS-43	70M	✓	✓	✓	✓	N/A	N/A	✓
40	DSS-45	34HEF	✓	N/A	✓	✓	TBD	N/A	✓
40	DSS-46	26M	✓	✓	N/A	N/A	N/A	N/A	N/A
60	DSS-54	34B1	✓	✓	✓	✓	08/01/07	N/A	✓
60	DSS-55	34B2	N/A	N/A	✓	✓	✓	N/A	✓
60	DSS-63	70M	✓	✓	✓	✓	N/A	N/A	✓
60	DSS-65	34HEF	✓	N/A	✓	✓	TBD	N/A	✓
60	DSS-66	26M	✓	✓	N/A	N/A	N/A	N/A	N/A

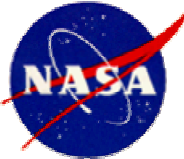
N/A = Capability Not Planned

xx/xx/xx = Capability Date Recently Change

As of: 04/21/04

✓ ✓ ✓ = Capability Recently Exists

✓ = Capability Exists



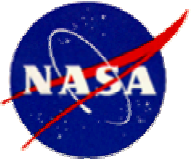
# RESOURCE ALLOCATION REVIEW BOARD

## Periods of Contention



	Remaining contentions to be resolved in Mid-Range Scheduling
	Remaining contentions to be resolved in JURAP and Mid-Range Scheduling
	Remaining contentions to be resolved in RARB
	Green text denotes months with resolved contentions

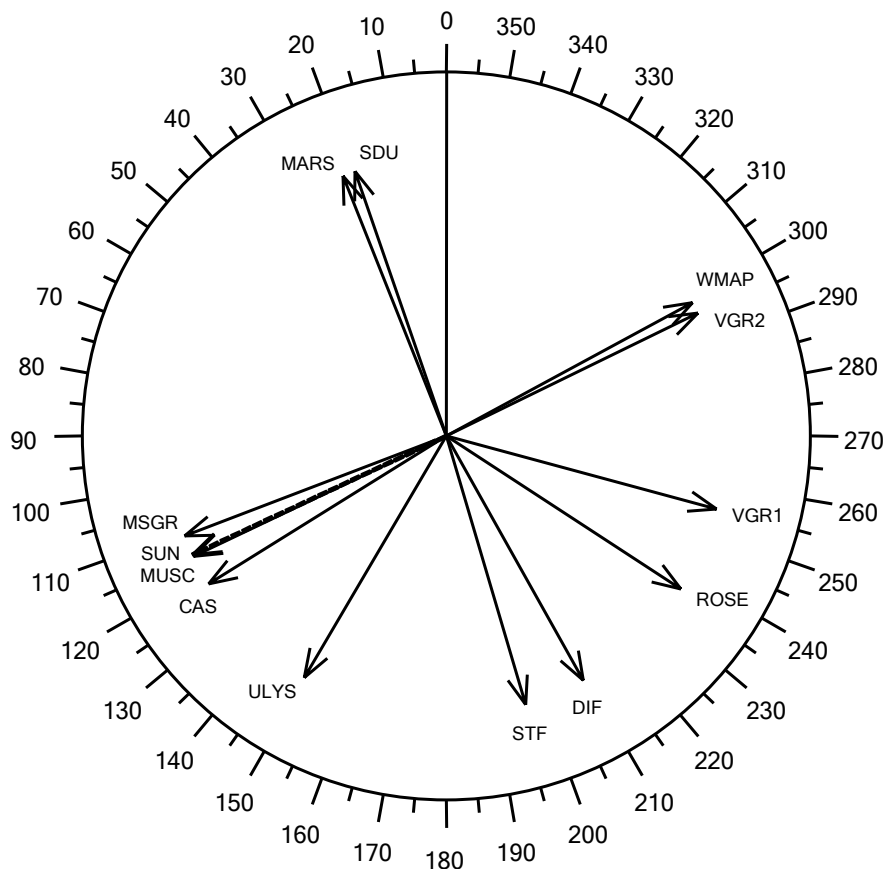
Month	Weeks		
	2005	2006	2007
January	01 – 04	01 – 04	01 – 04
February	05 – 08	05 – 08	05 – 08
March	09 – 13	09 – 13	09 – 13
April	14 – 17	14 – 17	14 – 17
May	18 – 21	18 – 21	18 – 22
June	22 – 26	22 – 26	23 – 26
July	27 – 30	27 – 30	27 – 30
August	31 – 34	31 – 35	31 – 35
September	35 – 39	36 – 39	36 – 39
October	40 – 43	40 – 43	40 – 43
November	44 – 47	44 – 48	44 – 48
December	48 – 52	49 – 52	49 – 52



# RESOURCE ALLOCATION REVIEW BOARD

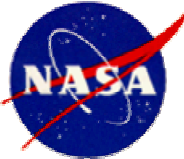
## Spacecraft Right Ascension

July 15, 2005



THE SPACECRAFT RIGHT ASCENSION FIGURES SHOW THE POSITIONS OF THE SPACECRAFT IN THE SKY RELATIVE TO EACH OTHER ON THE 15TH OF EACH MONTH FOR THE YEAR INDICATED. RIGHT ASCENSION IS COMMONLY MEASURED IN HOURS, WITH 1 HOUR = 15 DEGREES.

THE ARROW INDICATES THE CENTER OF A SPACECRAFT VIEW FROM EARTH. EXTEND 60 DEGREES ON BOTH SIDES OF THE ARROW TO CALCULATE AN EIGHT (8) HOUR VIEW PERIOD.



# RESOURCE ALLOCATION REVIEW BOARD

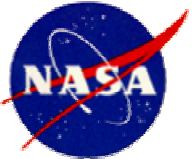
## Events, Recommendations and Analyses



- ◆ The RARB Redbook makes reference to monthly contention as low, moderate, severe, and extreme. The explanation of these terms is listed below.
  - Projected unsupportable time is expressed as low, moderate, severe, or extreme in the Analysis sections of this document. Projected unsupportable time is an estimate of the amount of requested time, typically in percentage of requirements or modified requirements, that is unsupportable, based on resource availability, other users' requirements, assumed priorities, and view periods. The following percentages apply:

Low/Workable	= <15%
Moderate	= 15% to 30%
Severe	= 31% to 45%
Extreme	= >45%

Workable is a term used to express a condition wherein the projected unsupportable time is low. This condition occurs when the general forecasting analysis indicates a low percentage of unsupportable time or when RARB agreements have been made to reduce contention to a workable level. Workable essentially means that experience has shown that the remaining contention may be solved during final schedule preparations and negotiations.

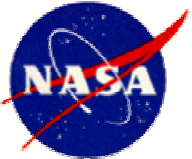


# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**



# **2005 Events, Analysis and Recommendations**

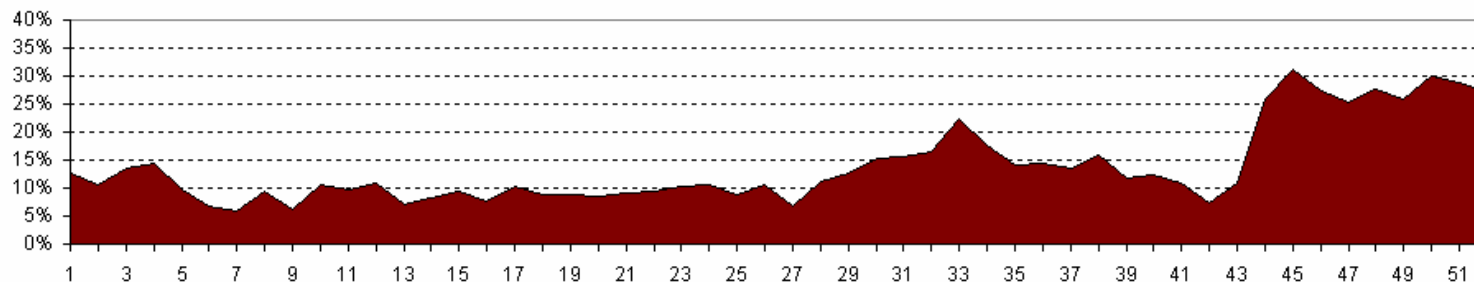


# RESOURCE ALLOCATION REVIEW BOARD

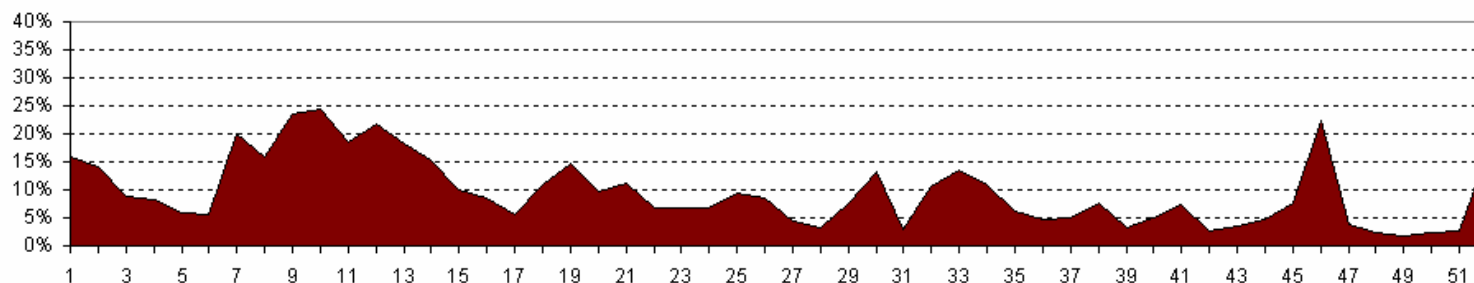
## Events, Recommendations and Analyses

### 2005 Weekly Average User Unsupportable Time

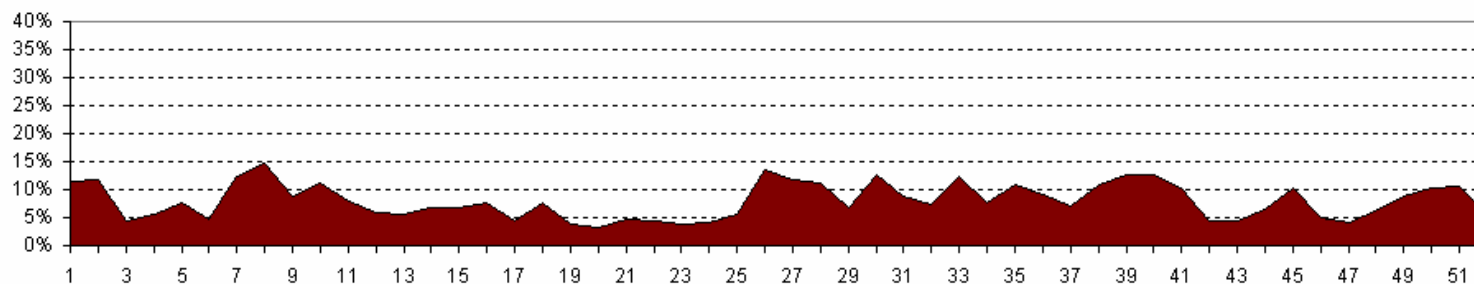
70M



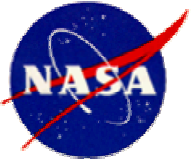
34HEF



34BWG1





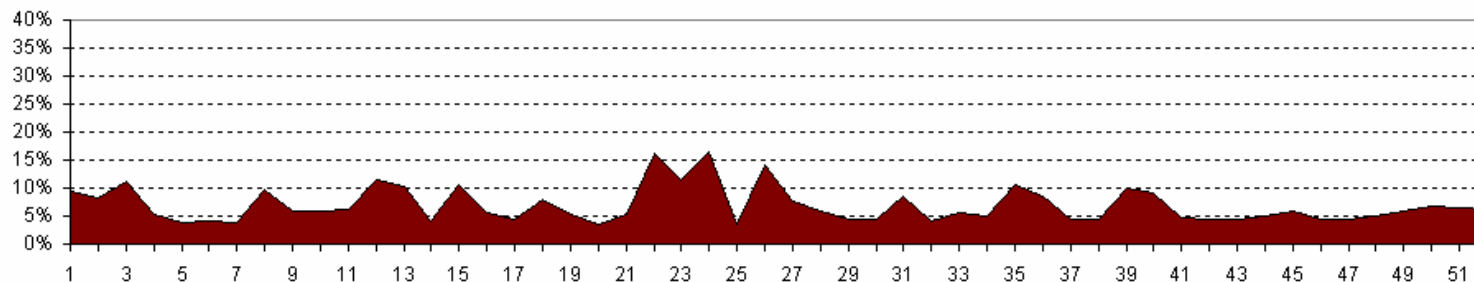


# RESOURCE ALLOCATION REVIEW BOARD

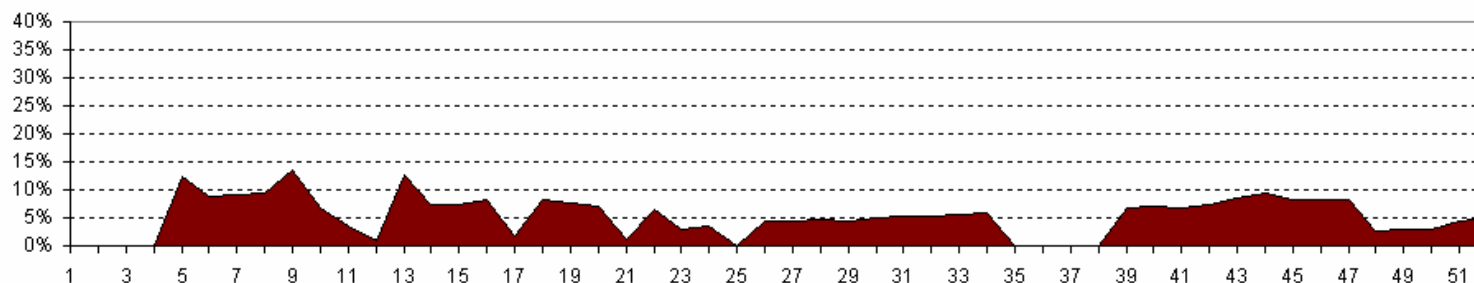
## Events, Recommendations and Analyses

### 2005 Weekly Average User Unsupportable Time

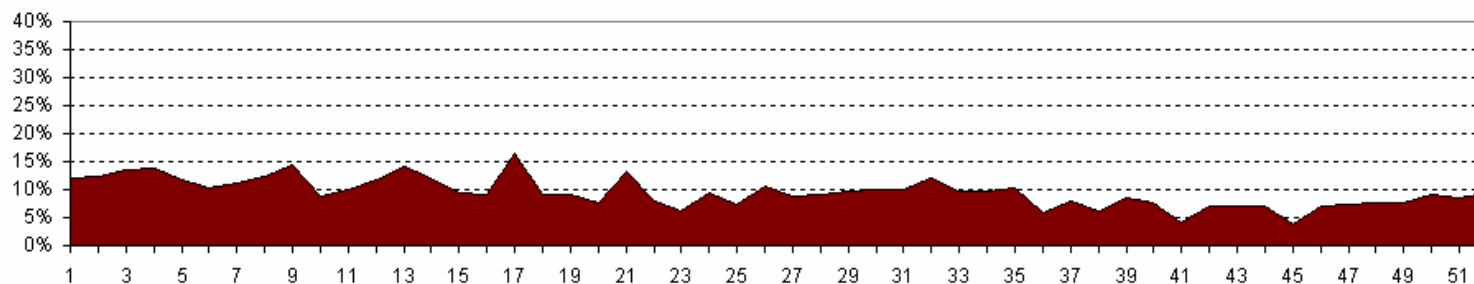
34BWG2

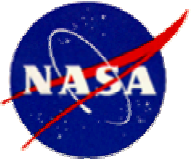


34HSB



26M

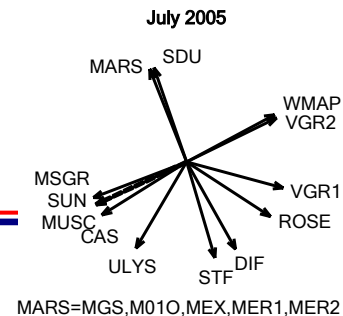




# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2005 – July (Weeks 27 - 30)**



#### **EVENTS**

**DSS-43 approved downtime (antenna controller replacement) beginning in week 29**

**DSS-54 approved downtime (microwave subsystem controller) in week 28**

**DSS-55 approved downtime (microwave subsystem controller) in week 27**

**ATOT A01 Image support in week 28**

**Cassini tour**

**Chandra ACA Dark Current measurement in week 27**

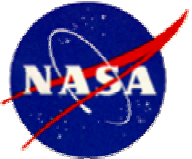
**Deep Impact Flyby comet encounter, comet impact in week 27, DOY 185, and P/B beginning on DOY 187**

**Goldstone Solar System Radar Mercury Radar and Lunar Pole observation in week 29, and Mercury with Arecibo support beginning in week 30**

**Gravity Probe B BR092n SOC-M4 in week 28.**

**MESSENGER Earth Swing by in week 30**

**Mars Express Orbital Science and Occultation support**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

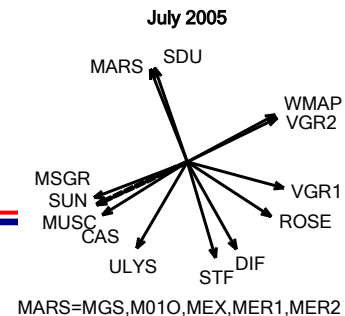
### 2005 – July (Weeks 27 - 30)

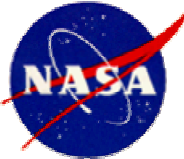
#### EVENTS

SOHO HSO continuous support

Wilkinson Microwave Anisotropy Probe maneuver in week 27

Wind TCM in week 28, DOY 194





# RESOURCE ALLOCATION REVIEW BOARD

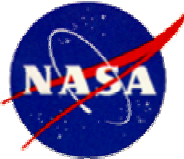
## Events, Recommendations and Analyses

2005 – July (Weeks 27 - 30) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete supports in week 27 and 1 of 2 supports in week 29 and 30. Move the remaining Development support from 70M to DSS-14,63 and reduce from 8 hours to 4 hours in weeks 29 and 30. (1)
- ☺ DSS Bearing Maintenance delete support at DSS-43 in week 27. (1)
- ☺ GBRA Guest Observation delete support in week 27 and reduce support at DSS-14,63 from 8 hours to 4 hours in week 29. Delete Host Country support in week 28 and reduce support at DSS-45 from 8 hours to 4 hours in week 30. Delete PRA-GAVRT CAL support in weeks 27 and 28 and reduce all support duration from 9 hours to 4 hours in weeks 29 and 30. (1,2)
- ☺ GSSR GODR reduce support duration from 8 hours to 4 hours in weeks 29 and 30. Delete all Mercury supports in week 28. (1)
- ☺ MEX Orbital Science move all passes from DSS-24,54 to DSS-26,55 in week 28. (3)
- ☺ MGS Mapping and Beta Supplement move the 2 passes from DSS-24,34,65 to DSS-25,34,65 in week 28. (3)
- ☺ MSGR Cruise move all passes from DSS-24,34,55 and DSS-24,34,54 to 34HEF in weeks 27,28 and 30. Earth Swingby move all passes from 34BWG1,34HEF to 34BWG1,34BWG2 only in week 30. (3)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

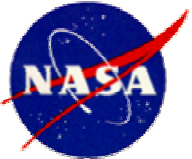
2005 – July (Weeks 27 - 30) (continued)



### RECOMMENDATIONS

RFC CAT M&E S/X reduce support from 24 hours to 12 hours in week 29 and delete support in week 30. Reduce CAT M&E X/Ka support from 24 hours to 12 hours in week 28. (2,3)

- ☺ ULYS move 5 of 7 passes from 34BWG1 to DSS-24,34 and move the remaining 2 passes to DSS-34,43 in week 28. (3)
- ☺ VGR1 move routine U/L pass in week 27 from DSS-14,63 to DSS-63 only. Move all passes from DSS-54 to DSS-65 in week 27. (1,3)
- ☺ VGR2 reduce all passes from 8 hours to 6 hours in week 30. (3)
- ☺ WIND move TCM pass from DOY 194 to DOY 195 in week 28. (3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

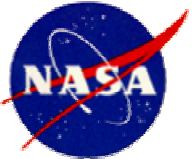
**2005 – July (Weeks 27 - 30) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupportable time is extreme for DIF impact in week 27, severe for DSS bearing maintenance in weeks 27 and 29 and for routine maintenance in weeks 28 and 30. Moderate unsupportable time is forecast for GBRA, GSSR and M01O. The contention in weeks 29 – 30 is compounded by DSS-43 downtime and view period overlap between CAS, DSS, DIF, WMAP and Mars missions.**
- 2. (34HEF) The projected unsupportable time is severe for DSS maintenance, moderate for GBRA, MGS MSPA with M01O and SGP due to view period overlap of the DSS maintenance, RFC CAT M&E S/X and 24-hour requirement for SGP.**
- 3. (34BWG1) The projected unsupportable time is extreme for WIND TCM, severe for DSS maintenance and routine WIND support, moderate for VGR1 and ULYS due to view period overlap between DSS maintenance, MSGR, ULYS, VGR1 and WIND. The contention is compounded by approved downtime of DSS-54 in week 28 and DSS-55 in week 27.**

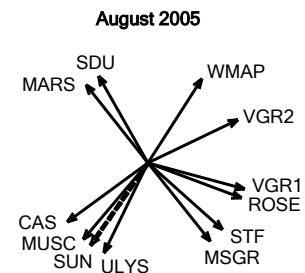
**Contention on the 34BWG2, 34HSB, 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2005 – August (Weeks 31 - 34)



#### EVENTS

**DSS-43 approved downtime (antenna controller replacement)**

**Cassini tour**

**Deep Impact Flyby playback and EOPM in week 31, DOY 217**

**Goldstone Solar System Radar Asteroid 1992UY4 in week 31, Mercury RSD with Arecibo ending in week 31 and Lunar Pole observation in week 33.**

**Mars Reconnaissance Orbiter Launch in week 32, DOY 222 and TCM in week 34**

**Mars Express Orbital science and Occultation support**

**SOHO HSO continuous**

**Voyager 1 MAGROL in week 31, DOY 218**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

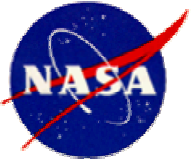
2005 – August (Weeks 31 - 34) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports and reduce all support duration from 8 hours to 4 hours. (1)
- ☺ GBRA Guest Observation delete support in week 31. Delete Host Country support at DSS-63 in week 33 and reduce support at DSS-45 from 8 hours to 4 hours in week 34. Delete PRA-GAVRT CAL support in week 31 and reduce support from 9 hours to 4 hours in weeks 32 and 33. (1)
- ☺ GSSR GODR reduce support from 8 hours to 4 hours in weeks 33 and 34. (1,2)
- ☺ M01O Mapping MSPA 3 passes with MEX Orbital Science at DSS-14,63 in weeks 33 and 34 and reduce the remaining 4 standalone passes at DSS-14,63 from 8 hours to 6 hours in week 33. Move all MSPA passes with MGS Mapping and Beta Supplement from 34HEF to 34BWG2 in weeks 32 – 34. (1,2,3)
- ☺ MEX Orbital Science MSPA 3 passes with M01O Mapping at DSS-14,63 in weeks 33 and 34. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MGS Mapping and Beta Supplement move all passes from 34HEF to 34BWG2 and MSPA with M01O in weeks 32 – 34 and delete 1 of 3 standalone passes at DSS-34 in week 33. (2,3)
- ☺ MSGR Cruise move 6 of 11 passes from DSS-24,34,55 to 34HEF in week 31. (3)





# RESOURCE ALLOCATION REVIEW BOARD

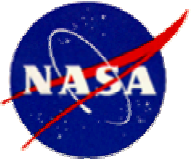
## Events, Recommendations and Analyses

2005 – August (Weeks 31 - 34) (continued)



### RECOMMENDATIONS

- ☺ VGR2 reduce all passes from 8 hours to 6 hours at DSS-34,45. (2,3)
- ☺ WMAP move 3 of 7 passes from DSS-14,63 to DSS-63 in week 31. (1)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

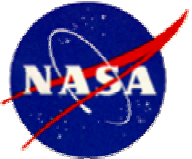
**2005 – August (Weeks 31 - 34) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupportable time is moderate to extreme for DSS maintenance, GBRA Guest observations and PRA-GAVRT CAL, GSSR Asteroid 1992UY4, M01O, VGR1 MAGROL and WMAP due to view period overlap between DSS maintenance, Mars missions, VGR1, WMAP and 1992UY4 asteroid. The contention is compounded by the approved DSS-43 downtime.**
- 2. (34HEF) The projected unsupportable time is moderate to severe for CLU2 SSO, DSS maintenance, GSSR GODR, M01O Mapping with MGS MSPA, SGP Crustal Dynamics, and VGR2 routine support due to the view period overlap between, CLU2, DSS maintenance, Mars missions, VGR2 and 24-hour requirements for Space Geodesy.**
- 3. (34BWG1) The projected unsupportable time is moderate to severe for DSS maintenance, MGS, RFC CAT M&E X/Ka and VGR2 due to view period overlap between DSS maintenance, Mars missions, simultaneous 24-hour requirements for RFC CAT M&E X/Ka at DSS-34 and VGR2, .**

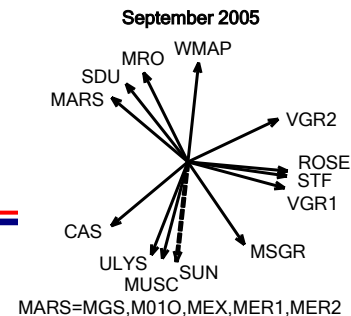
**Contention levels on the 34BWG2, 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2005 – September (Weeks 35 - 39)**



#### **EVENTS**

**DSS-43 approved downtime (antenna controller replacement)**

**DSS-15 proposed downtime (antenna controller replacement) beginning in week 37**

**Cassini tour**

**Goldstone Solar System Radar Mercury with Arecibo support in weeks 35 and 36, Lunar Pole observation in weeks 35,37 and 39 and Asteroid 1999Q36 in weeks 37 and 38, Asteroid 1998R01 in weeks 38 and 39**

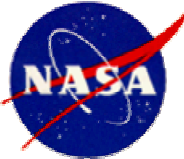
**Mars Reconnaissance Orbiter Launch support ending in weeks 36 and calibration**

**MESSENGER Flip/Flop in week 39**

**Mars Express Orbital Science and Occultation**

**SOHO HSO ending in week 35, Keyhole event beginning in week 36, DOY 244, and Keyhole maneuver in week 38, DOY 256**

**Voyager 2 DTR P/B in week 36, DOY 250, ASCAL and MAGROL in week 37, DOY 256 and DOY 259**



# RESOURCE ALLOCATION REVIEW BOARD

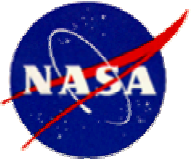
## Events, Recommendations and Analyses

2005 – September (Weeks 35 - 39) (continued)

### RECOMMENDATIONS

**DSS-15 approve downtime for Antenna Controller Replacement beginning in week 37**

- ☺ **ATOT Development delete 1 of 2 supports in weeks 37 – 39 and reduce all support duration from 8 hours to 4 hours. (1)**
- ☺ **GBRA Guest Observation delete 1 of 2 supports in weeks 35, 37 and 39, delete support in week 36 and reduce support duration from 8 hours to 4 hours in week 39. Reduce Host Country support from 8 hours to 4 hours at DSS-63 in week 38. Delete 1 of 2 PRA-GAVRT CAL supports in weeks 35 and 38 and reduce all support duration from 9 hours to 4 hours in weeks 35 – 37 and 39. (1)**
- ☺ **GSSR GODR delete support in weeks 37 and 38. Move Lunar Pole support from DSS-14/15,25 to DSS-14/25 in week 37 and delete support in week 39. Delete 1 of 3 Mercury RSD Arecibo supports from week 36. (1)**
- ☺ **MSGR Cruise move 1 of 3 passes in week 37, 5 of 10 passes in week 39 and all passes in weeks 36 and 38 from DSS-24,34,55 to DSS-25,45,55. (3)**
- RFC CAT M&E S/X delete support in weeks 37 and 38. Move Clock Sync support from DSS-15\65 to DSS-14\65 in weeks 37 and 39. (1,2)**
- ☺ **SDU move all passes from 34HEF to DSS-25,45,65 in weeks 37 – 39. (2)**



# RESOURCE ALLOCATION REVIEW BOARD

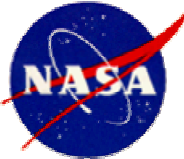
## Events, Recommendations and Analyses

2005 – September (Weeks 35 - 39) (continued)



### RECOMMENDATIONS

- ☺ SOHO move 2 passes from 34BWG1 to 34HEF/26M in weeks 35 and 36. Move 1 to 4 passes from 34BWG1 to DSS-45/46,65/66 in weeks 38 and 39. Move 2 to 3 passes from DSS-24,54,45/46 to DSS-45/46,65/66 in weeks 36 – 38. Move Keyhole maneuver in week 37 from DOY 256 to 257. Additional support during the keyhole periods will be added on a best efforts basis in Mid-range Scheduling. (3,5)
- ☺ VGR1 reduce all passes from 8 hours to 5 hours at DSS-26, move to DSS-25 and reduce all passes from 8 hours to 6 hours at DSS-55 in weeks 35,36 and 39. (4)
- ☺ VGR2 reduce all passes from 8 hours to 6 hours at DSS-34,45 in weeks 35 – 37 . Move all passes from DSS-34,45 to DSS-45 and reduce all pass duration from 8 hours to 4 hours in weeks 38 and 39. (3)



# **RESOURCE ALLOCATION REVIEW BOARD**

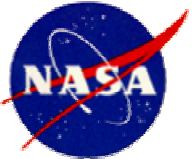
## **Events, Recommendations and Analyses**

**2005 – September (Weeks 35 - 39) (continued)**

### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for CAS tour, DSS bearing and routine maintenance, GBRA observations, GSSR observations, M01O/MGS MSPA, SOHO Keyhole MNVR and WMAP routine support. Contention is a result of oversubscription at Goldstone and Madrid in the Mars view period compounded by the approved downtime at DSS-43 and the requirements for GSSR Asteroid 1999Q36 and 1998 RO1 observations and SOHO Keyhole events.
2. (34HEF) Moderate unsupportable time is forecast for SGP and VGR2 due to view period overlap of VGR2 and 24-hour requirement for SGP at DSS-45. Contention on 34HEF is further increased by DSS-15 proposed downtime.
3. (34BWG1) The projected unsupportable time is moderate to severe for DSS maintenance, SOHO Keyhole events, VGR2 and WIND due to view period overlap of DSS maintenance, SOHO, VGR2 and WIND.
4. (34BWG2) The projected unsupportable time is moderate for VGR1.
5. (26M) The projected unsupportable time for SOHO Keyhole maneuver is severe in week 37 and moderate for SOHO HSO support in week 35 due to view period overlap with DSS.

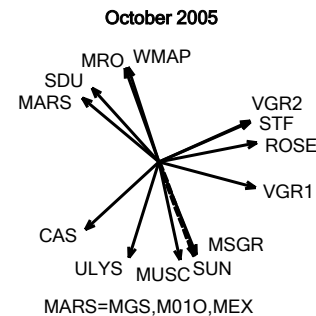
**Contention levels on the 34HSB are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2005 – October (Weeks 40 - 43)



#### EVENTS

DSS-43 approved downtime (antenna controller replacement)

DSS-15 proposed downtime (antenna controller replacement)

Cassini tour

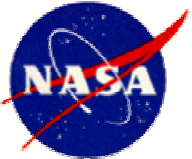
Goldstone Solar System Radar Mars and Venus Radar Observation and Mars with Arecibo Interferometry in week 43

Mars Express Orbital Science/Occultation

Stardust TCM support in weeks 42 and 43

Voyager 1 DTR array P/B in week 43, DOY 299

Wilkinson Microwave Anisotropy Probe maneuver in week 43



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – October (Weeks 40 - 43) (continued)

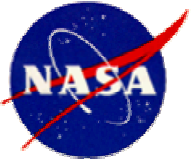


### RECOMMENDATIONS

#### DSS-15 approve downtime for Antenna Controller Replacement

- ☺ ATOT Development delete 1 of 2 supports and reduce the support duration from 8 hours to 4 hours in week 41 and delete support in week 43. (1)
- ☺ CAS Tour move from DSS-15,24,25,26,54,55,65 to DSS-24,25,26,54,55,65 in weeks 40 – 43. (2)
- ☺ DSS delete 1 of 2 routine maintenance supports at DSS-14 and the 6-hour maintenance support at DSS-63 in week 43. (1)
- ☺ GBRA Guest Observation delete 1 of 2 supports and reduce the support duration from 8 hours to 4 hours in weeks 41 and 43. Delete Host Country support at DSS-63 in week 42. Delete PRA-GAVRT CAL support in weeks 41 and 43 and reduce support duration from 9 hours to 4 hours in weeks 40 and 42. (1)
- ☺ GSSR Arecibo Mars Interferometry reduce support duration from 7 hours to 1.5 hours in week 43. Delete GODR support in weeks 42 and 43. Delete 1 Mars support each in weeks 40 – 43. Increase remaining Mars support from 4 hours to 7 hours in week 43. Delete 1 of 3 Venus RSD GBT supports in week 41 and 43. Add an additional Venus GBT support in weeks 40 and 42. (1)





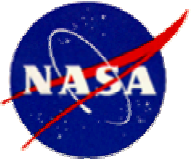
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – October (Weeks 40 - 43) (continued)

### RECOMMENDATIONS

- ☺ MGS Mapping and Beta Supplement move 1 to 3 passes from 34HEF to DSS-25,45,65 and move the remaining passes in each week from 34HEF to DSS-25,45,55. Maximize MSPA capability to meet requirements will be implemented in week 42. (2)
- ☺ MSGR Cruise move all passes from DSS-24,34,55 to 25,34,55. (3)
- ☺ MRO move all passes from 34HEF to DSS-25,45,65. (2)
- ☺ MUSC move 1 to 2 passes from DSS-25,34,54 to DSS-25,45,65 in weeks 40, 41 and 43. (3)
- RFC Clock Sync move support from DSS-15\65 to DSS-14\65 in weeks 41,43 and reduce the support duration from 4 hours to 2 hours in week 43. Delete CAT M&E S/X support in weeks 41 and 42. Move CAT M&E X/Ka support at DSS-26\55,26\34 from week 40 to week 43 and reduce support duration from 24 hours to 12 hours. (1,2,3)
- ☺ SDU move all passes from 34HEF to DSS-25,45,65 in weeks 40 and 41. (2)
- ☺ SOHO TSO move 2 of 5 passes from 34BWG1 to DSS-27 and move remaining 3 passes from 34BWG1 to 26M,DSS-27 in week 41. (3)
- ☺ VGR1 move from DSS-14,63 to DSS-63 only in week 43. (1)
- ☺ VGR2 reduce pass duration from 8 hours to 6 hours at DSS-34,45 in weeks 40, 41 and 43. Move 1 of 7 passes from DSS-34,45 to DSS-45 in week 40 and reduce 4 of 7 pass duration from 8 hours to 4 hours in week 42. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

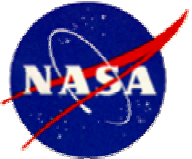
**2005 – October (Weeks 40 - 43) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for ATOT, DSS bearing and routine maintenance, GBRA Guest Observation and PRA-GAVRT CAL , GSSR GODR, Mars observation and Arecibo Mars Interferometry, M01O mapping, MEX Orbital Science and occultation, VGR1 DTR array and WMAP routine and Maneuver support. This is due to view period overlap between DSS and VGR1 and between WMAP and Mars missions which leaves little time for GBRA and GSSR activities.
2. (34HEF) The projected unsupportable time is moderate for MGS and SGP. This is due to the proposed downtime for DSS-15 and view period overlap of Mars missions and 24-hour requirement for SGP at DSS-45.
3. (34BWG1) The projected unsupportable time is moderate to severe for DSS maintenance, RFC CAT M&E X/Ka, ULYS and VGR2. This is due to the view period overlap between, DSS, ULYS and VGR2. The 24-hour requirement for RFC CAT M&E X/Ka at DSS-26/34 compounds to the contention.

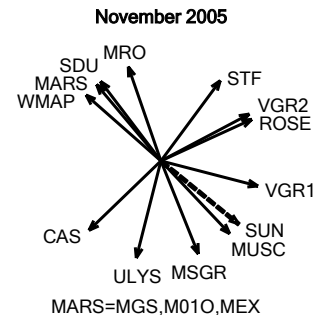
Contention levels on the 34BWG2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – November (Weeks 44 - 47)



### EVENTS

**DSS-43 approved downtime (antenna controller replacement)**

**DSS-15 proposed downtime (antenna controller replacement) ending in week 46**

**Cassini tour**

**Chandra ACA Dark Current measurement in week 45**

**EGS EVN JM-4 quarterly epoch at DSS-14/63 beginning in week 45**

**Goldstone Solar System Radar Mars Observations ending in week 46, Mars with Arecibo Interferometry ending in week 47, Venus RSD at DSS-14 with GBT in weeks 44, 45 and 46, Asteroid 1862 Apollo in weeks 45 and 46, and Mars RSD at DSS-63 with Arecibo beginning in week 45**

**Gravity Probe B BR092n SOC-M4 in week 44**

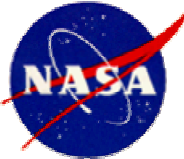
**Mars Express Orbital Science and Occultation support**

**Mars Odyssey THEMIS support**

**Mars Reconnaissance Orbiter TCM in weeks 44 and 45**

**Stardust TCM support**

**Voyager 1 ASCAL in week 44, DOY 305, and MAGROL in week 44, DOY 308**



# RESOURCE ALLOCATION REVIEW BOARD

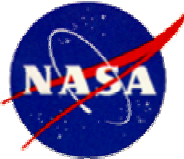
## Events, Recommendations and Analyses

2005 – November (Weeks 44 - 47) (continued)

### RECOMMENDATIONS

#### DSS-15 approve downtime for Antenna Controller Replacement

- ☺ ATOT Development delete support in weeks 44 and 46. Delete 1 of 2 supports and reduce the support duration from 8 hours to 4 hours in weeks 45 and 47. (1)
- ☺ EGS Calibration reduce support from 5 hours to 3 hours and delete 1 of 2 EVN J-M4 supports in week 45. (1)
- ☺ CAS tour move all passes from DSS-15,24,25,26,54,55,65 to DSS-24,25,26,54,55,65 in weeks 44-46. (2)
- ☺ GBRA Guest Observation delete support in weeks 44 and 46, delete 1 of 2 supports in weeks 45 and 47 and reduce the support duration from 8 hours to 4 hours in weeks 45 – 47. Delete Host Country support at DSS-45 in week 47, delete PRA-GAVRT CAL supports in weeks 44 and 46 and reduce the support duration from 9 hours to 4 hours in weeks 45 and 47. (1,2)
- ☺ GPB BR092n SOC-M4 reduce support duration from 12 hours to 8 hours at DSS-14 and increase support duration from 8 hours to 12 hours at DSS-63 in week 44. (1)



# RESOURCE ALLOCATION REVIEW BOARD

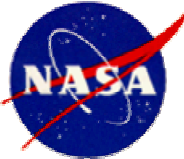
## Events, Recommendations and Analyses

2005 – November (Weeks 44 - 47) (continued)



### RECOMMENDATIONS

- ☺ GSSR Arecibo Mars Interferometry reduce support duration from 7 hours to 1.5 hours in weeks 44 – 47. Delete GODR support in week 46 and reduce support duration from 8 hours to 4 hours in week 47. Delete 1 of 2 Mars RSD Arecibo supports in weeks 45 – 47. Delete 1 of 2 Mars Radar observation supports in weeks 44 – 46 and increase the remaining supports from 4 hours to 7 hours. (1)
- ☺ M01O Mapping and MSPA with MGS Mapping move all passes from DSS-63 to DSS-14,63 in week 46 and delete all standalone passes at DSS-63. MSPA all THEMIS passes with MEX Orbital Science at DSS-14,63. MSPA all passes at DSS-26,45,55 with MGS Mapping and Beta Supplement in weeks 46 and 47. MSPA all passes at DSS-34,45 with MGS Mapping and Beta Supplement in weeks 44 and 45. MSPA all passes at the 34BWG2 subnet with MGS Mapping and Beta Supplement in weeks 44 and 45. (1,2)
- ☺ MEX Orbital Science and Occultation move all passes from DSS-14,65 to DSS-14,63 and MSPA with M01O. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MGS Mapping and Beta Supplement move all passes from 34HEF to DSS-26,45,55 and MSPA with M01O in weeks 46 and 47. Move all passes from DSS-34,45 to DSS-24,34 and MSPA with M01O in weeks 44 and 45. Reduce all pass duration from 14 hours to 7 hours at the 34BWG2 subnet and MSPA with M01O in week 44 and 45. Maximize MSPA capability in week 44 and 45. to meet requirements. (2,4)



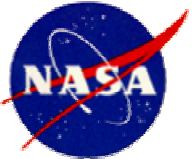
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – November (Weeks 44 - 47) (continued)

### RECOMMENDATIONS

- ☺ MRO move all passes from 34HEF to DSS-26,34,55 in weeks 44 and 45. Move 4 of 6 passes from DSS-15,45 to DSS-25,45 and 2 passes to DSS-25,34 in week 46. Move all TCM passes from 34HEF to DSS-26,45,65 in week 44 and 45. (2)
- ☺ MSGR Cruise move all passes from DSS-24,34,55 to DSS-25,34,54. (3)
- RFC CAT M&E X/Ka reduce support duration from 24 hours to 12 hours at DSS-26\55,26\34 in weeks 45 and 46. (3,4)
- ☺ SDU TCM move all passes from DSS-15,34,65 to DSS-26,34,65 and from DSS-15,65 to DSS-24,54 in week 46. (2)
- ☺ SOHO TSO move 2 of 5 passes from 34BWG1 to DSS-27 and 3 passes to 26M,DSS-27 in week 45. (3)
- ☺ VGR1 reduce pass duration from 8 hours to 6 hours and move passes from DSS-26 to DSS-25,26 and from DSS-55 to DSS-55,65. (4)
- ☺ VGR2 reduce all pass duration to 4 hours at DSS-34,45. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

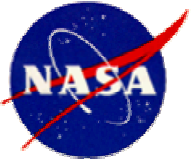
**2005 – November (Weeks 44 - 47) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable is severe to extreme for DSS bearing maintenance, EGS EVN J-M4, GBRA Guest Observation and PRA-GAVRT CAL, GSSR Mars RSD Arecibo and Mars Arecibo Interferometry, GPB BR092n SOC- M4, M01O and MGS mapping, VGR1 ASCAL and WMAP routine support, moderate for ATOT development, DSS maintenance, EGS Calibration, GSSR GODR and Venus RSD GBT, M01O THEMIS, MEX Orbital Science and Occultation and MEX R/S Bi Static, STF and VGR1 MAGROL. Contention is due to view period overlap of DSS, GPB, Mars missions, STF, VENUS, VGR1 and WMAP.
2. (34HEF) The projected unsupportable time is moderate to severe for CLU2 SSO, DSS Maintenance, GBRA Host Country, GSSR GODR, MGS Mapping and Beta Supplement, MEX Orb Science and Occultation, MRO Cruise, SDU and SGP. Contention is due to view period overlap of CLU, Mars missions and SDU. The contention is further compounded by DSS-15 proposed downtime until week 46 and 24-hour requirement for SGP at DSS-45.





# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2005 – November (Weeks 44 - 47) (continued)**

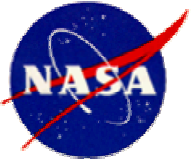


### **ANALYSES**

3. (34BWG1) The projected unsupportable time is extreme to moderate for WMAP, moderate to severe for MGS Mapping and Beta Supplement, moderate for DSS maintenance, MRO cruise, RFC CAT M&E X/Ka, ULYS and VGR2. Contention is due to view period overlap between WMAP and Mars missions and between VGR2 and ULYS at DSS-34.
4. (34BWG2) The projected unsupportable time is moderate for GSSR Mars Observation, M01O, MGS Mapping and Beta Supplement and VGR1. Contention is due to view period overlap of Mars missions and VGR1.

**Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**

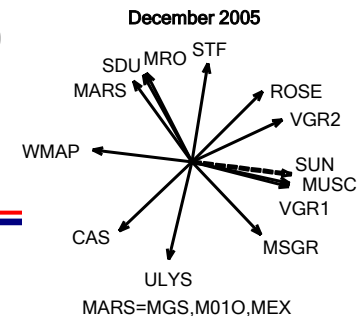




# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2005 – December (Weeks 48 - 52)**



#### **EVENTS**

**DSS-43 approved downtime (antenna controller replacement) ending in week 52**

**ATOT Mission support in week 48**

**Cassini tour**

**Goldstone Solar System Radar Mars Radar RSD at DSS-63 with Arecibo ending in week 48 and Mercury Radar in week 48**

**Mars Express Orbital Science and Occultation support**

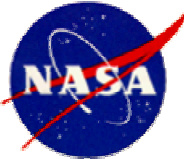
**Mars Odyssey THEMIS support**

**MESSENGER DSM-1 support in week 50, DOY 347**

**SOHO Keyhole event in weeks 48 – 51, and Keyhole maneuver in week 50, DOY 347 – 348**

**Stardust TCM support ending and Earth re-entry support beginning in week 52**

**Voyager 2 MAGROL in week 50, DOY 349**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – December (Weeks 48 - 52) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development delete support in week 50, delete 1 of 2 supports in weeks 51 and 52, and reduce support duration from 8 hours to 4 hours in weeks 48, 49, 51 and 52. Mission reduce support duration from 24 hours to two 8-hour supports and move 1 support from week 48 to week 49. (1)
- ☺ DSS Maintenance delete 1 of 2 routine maintenance supports at DSS-14 in week 50. (1)
- ☺ GBRA Guest Observation delete support in week 50, delete 1 of 2 supports in weeks 49 and 51, reduce support duration from 8 hours to 4 hours in weeks 48, 49, 51 and 52. Delete PRA-GAVRT CAL support in week 50 and reduce support duration from 9 hours to 4 hours in weeks 48, 49, 51 and 52. (1)
- GSSR GODR reduce support duration from 8 hours to 4 hours in weeks 51 and 52. ☺  
IMAG move 5 of 13 routine passes from 34BWG1 to DSS-46/45 in week 50. (3)
- ☺ M01O Mapping and MSPA with MGS Mapping reduce pass duration from 10 hours to 8 hours at DSS-63. Move THEMIS passes from DSS-14,63 to DSS-14, reduce pass duration from 10 hours to 8 hours and MSPA with MEX Orbital Science and Occultation. MSPA with MGS Mapping Beta and Supplement 2 passes at 34BWG1 in week 48 and all passes at DSS-15,45 in weeks 48 – 52. (1)



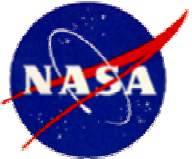
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2005 – December (Weeks 48 - 52) (continued)

### RECOMMENDATIONS

- ☺ MEX Orbital Science and Occultation move passes from DSS-14,65 to DSS-14 and MSPA with M01O THEMIS. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
  - ☺ MGS Mapping and MSPA with M01O Mapping reduce pass duration from 10 hours to 8 hours at DSS-63. MSPA with M01O Mapping 2 passes at 34BWG1 in week 48 and all passes at DSS-15,45 in weeks 48 – 52. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
  - ☺ MRO move 2 of 10 calibration passes from 34HEF to 34BWG1 and move 2 of 4 Delta DOR passes from the 34BWG1 to 34BWG2 in week 52. Move 2 cruise passes from 34HEF to 34BWG1 and 2 to the 34BWG2 in week 52. (2,3)
  - ☺ MSGR DSM-1 move 1 of 2 passes from DSS-14,63 to 34BWG2 in week 50 and move all Cruise passes in week 50 and 3 of 5 passes in week 52 from DSS-24,34,55 to DSS-24,45,55. (3)
- RFC CAT M&E X/Ka delete support at DSS-26\55,26\34 in week 50 and reduce support duration from 24 hours to 12 hours at DSS-26\55,26\34 in weeks 51 and 52. (3)
- ☺ SDU TCM-18 B/U move from DSS-54,55 to DSS-55 only in week 52. (3)



# RESOURCE ALLOCATION REVIEW BOARD

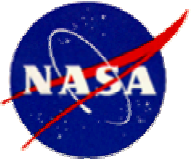
## Events, Recommendations and Analyses

2005 – December (Weeks 48 - 52) (continued)



### RECOMMENDATIONS

- ☺ SOHO Keyhole move 1 to 4 passes from 70M/26M to 34HEF/26M in week 48 – 50 and delete 2 passes at the 34BWG1 subnet and add 2 passes at 34HEF/26M in week 51. Move Keyhole maneuver to avoid 26M maintenance in week 50. Additional support during the keyhole periods will be added on a best efforts basis in Mid-range Scheduling. (1,3,4)
- ☺ ULYS move all passes from 34BWG1 to DSS-34,45. (3)
- ☺ VGR2 reduce 2 to 7 pass duration from 8 hours to 4 hours at DSS-34,45. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

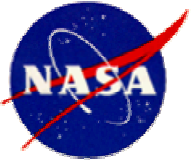
**2005 – December (Weeks 48 - 52) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time is extreme for GSSR Mars RSD Arecibo, M01O and MGS mapping and MSGR DSM-1, severe to moderate for ATOT development, DSS bearing and routine maintenance, GBRA Guest Observations and PRA-GAVRT CAL, GSSR GODR, MEX R/S Bi Static, M01O THEMIS, SOHO Keyhole events and maneuver, STF and WMAP. Contention is due to view period overlap between DSS, MSGR, SOHO, STF and the Mars missions.
2. (34HEF) The projected unsupportable time is moderate for MEX Orbital Science and Occultation, MGS mapping and MRO cruise. Contention is due to view period overlap of Mars missions.
3. (34BWG1) The projected unsupportable time is extreme for VGR2 MAGROL, severe for MRO cruise, VGR2 and WMAP, moderate for DSS maintenance, IMAG, RFC CAT M&E X/Ka, SDU TCM and SOHO Keyhole and TSO. Contention is due to view period overlap of DSS, IMAG, SOHO and VGR2 which is further compounded by 24-hour requirement for RFC CAT M&E X/Ka at DSS-26/34.
4. (26M) The projected unsupportable time is severe for SOHO Keyhole MNVR.

Contention levels on the 34BWG2 and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations.

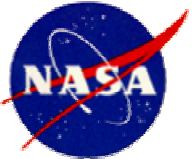


# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**



# **2006 Events, Analysis and Recommendations**

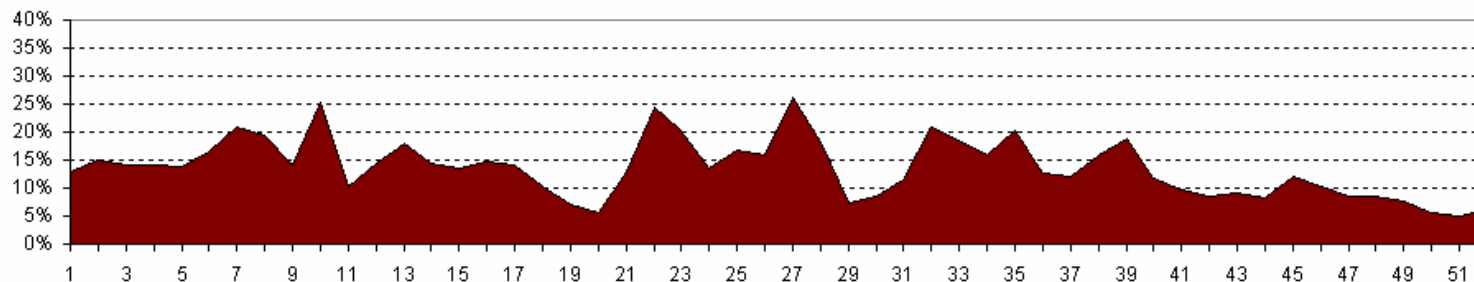


# RESOURCE ALLOCATION REVIEW BOARD

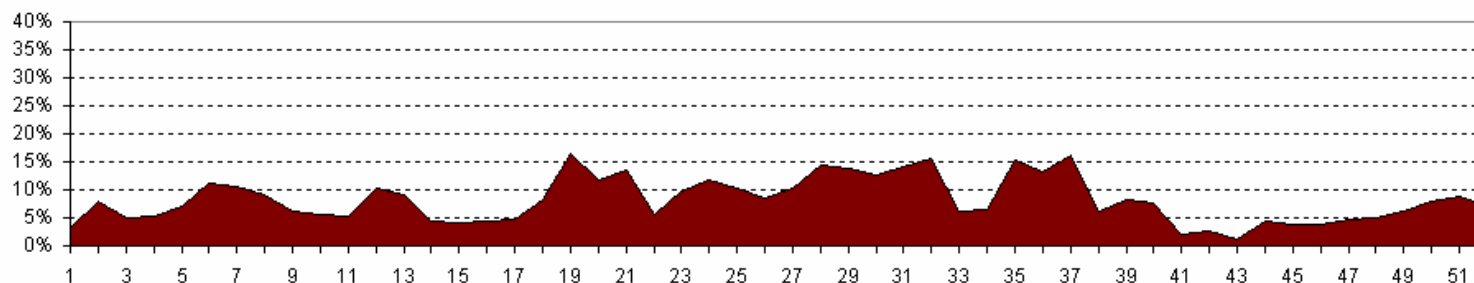
## Events, Recommendations and Analyses

### 2006 Weekly Average User Unsupportable Time

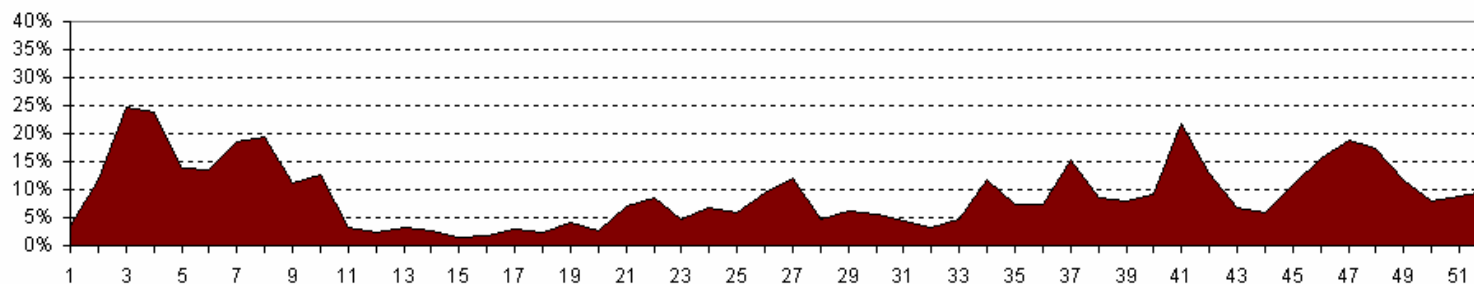
70M

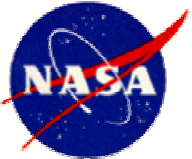


34HEF



34BWG1



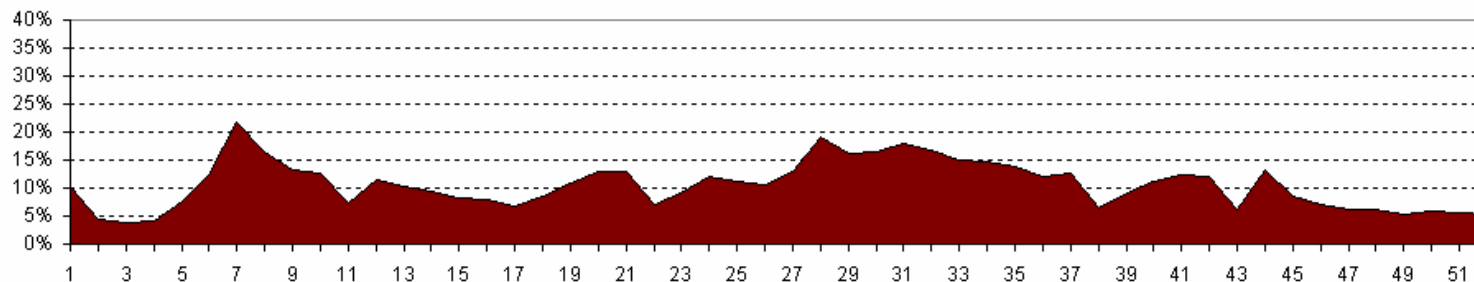


# RESOURCE ALLOCATION REVIEW BOARD

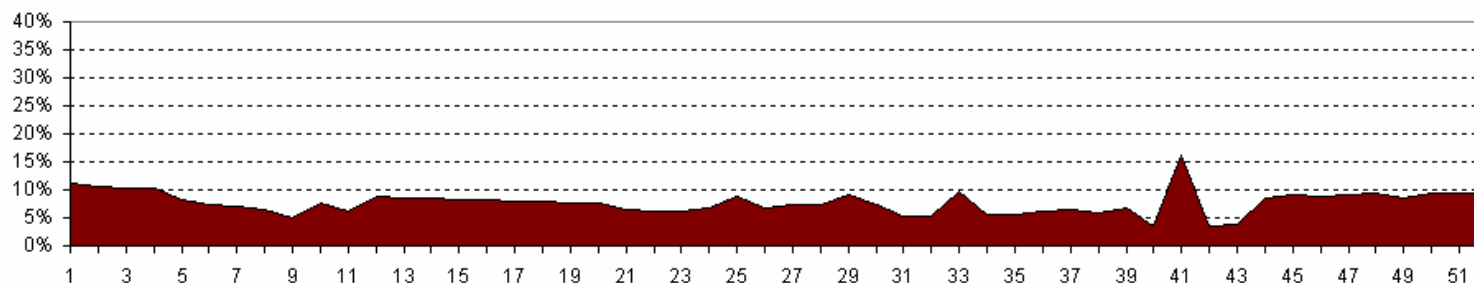
## Events, Recommendations and Analyses

### 2006 Weekly Average User Unsupportable Time

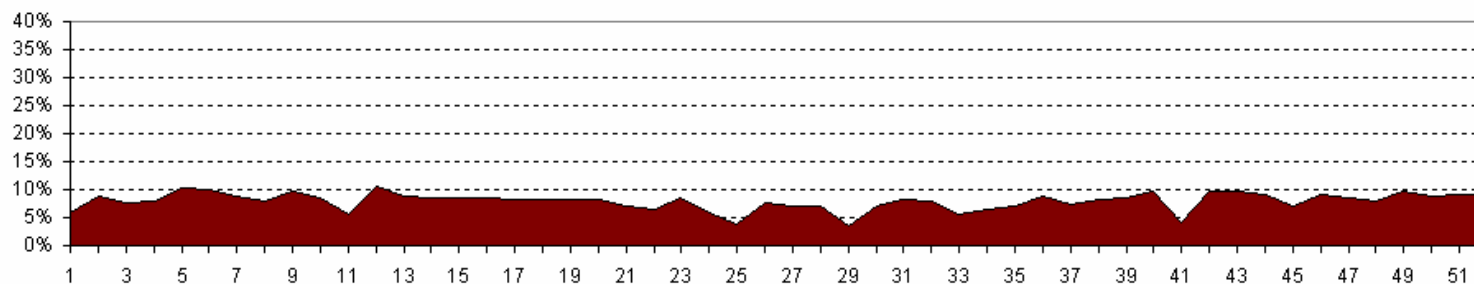
34BWG2



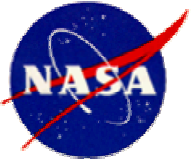
34HSB



26M



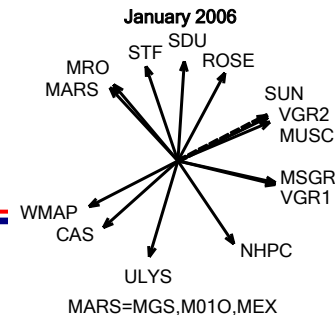




# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – January (Weeks 01 - 04)



#### EVENTS

Cassini tour

Goldstone Solar System Radar Venus RSD with Green Bank Telescope beginning in week 04

Hayabusa (MUSES-C) TCM-3 beginning in week 04, DOY 023

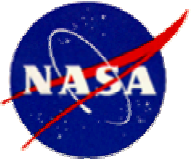
Mars Odyssey THEMIS

Mars Express Orbital Science, Occultation and bi-static radar

Mars Reconnaissance Orbiter cruise Ka-band, approach, Delta DOR in weeks 02 – 04, and TCM-3 in week 04, DOY 029

New Horizons Launch and initial acquisition in week 02, DOY 011, and LEOP continuous support beginning in week 02, DOY 011 – 029

Stardust TCM-18 – 20, Earth re-entry on DOY 014, and post Earth return in weeks 01 and 02



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – January (Weeks 01 - 04) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports per week, reduce support duration from 8 hours to 4 hours in weeks 01 and 02 and delete support in weeks 03 and 04. (1)
- ☺ CLU2 SSO delete DSS-45 from the antenna resource requirement in weeks 01 and 02. (2)
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 02, reduce support duration from 8 hours to 4 hours in weeks 01 and 02 and delete all supports in weeks 03 and 04. Reduce Host Country support duration from 8 hours to 6 hours at DSS-63 and DSS-43. Reduce PRA-GAVRT CAL support duration from 9 hours to 4 hours in weeks 01 – 03 and delete support in week 04. (1)
- ☺ M01O Mapping MSPA 3 standalone passes with MGS at the 70M in week 03. Delete 1 MSPA mapping pass with MGS per week and add 1 pass per week at DSS14, 63 and MSPA with MEX. (1)
- ☺ MEX Orbital Science maximize MSPA capability with MGS and M01O; MSPA 2 of 3 standalone passes per week with MGS and 1 of the 3 standalone passes with M01O at DSS-14,63. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)



# RESOURCE ALLOCATION REVIEW BOARD

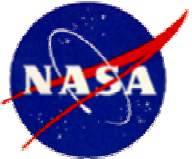
## Events, Recommendations and Analyses

2006 – January (Weeks 01 - 04) (continued)



### RECOMMENDATIONS

- ☺ MGS delete one MSPA mapping pass with M01O per week at the 70M, move 2 standalone mapping passes from the 70M, 34BWG2 to DSS-14,63 and MSPA with MEX in weeks 01 – 03 and move the remaining 3 standalone passes from the 70M,34BWG1 to the 34BWG2 only in week 03. Add 1 pass per week at the 34BWG2 subnet in weeks 01 – 04 . (1,3,4)
- ☺ MSGR Cruise move passes from DSS-26,45,65 to 34BWG1 in week 01 and from DSS-26,45,65 to DSS-26,34,55 in weeks 02 and 03. (2,3,4)
- ☺ STF move passes from DSS-14,43 to the 70M in weeks 02 and 03. (1)
- ☺ VGR2 move 6 to 7 passes per week from DSS-43, and DSS-43,45 to DSS-43,34,45 and reduce pass duration from 8 hours to 6 hours. (1,2)



# **RESOURCE ALLOCATION REVIEW BOARD**

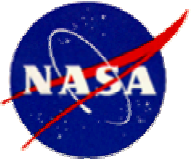
## **Events, Recommendations and Analyses**

**2006 – January (Weeks 01 - 04) (continued)**



### **ANALYSES**

- 1. (70M) The overall projected unsupportable time for this period range from moderate to extreme. CLU2 SSO, DSS Bearing and routine maintenance, GBRA, GSSR, M01O and MGS MSPA, VGR2 and WMAP projected unsupportable time is moderate. The projected unsupportable time for M01O MSPA with MGS mapping, MEX R/S MSPA with M01O Mapping, M01O and MGS standalone mapping, MRO approach and STF is severe to extreme. The projected unsupportable time is caused by oversubscription in the Mars view period and view period overlap in the Mars and daylight maintenance view period.**
- 2. (34HEF) The projected unsupportable time range from moderate to severe for CLU2 SSO, DSS maintenance, SDU TCM 18-20, SGP, and VGR1 and VGR2 due to view period overlap into the daylight maintenance view period, compounded by SDU Earth entry, TCM and post Earth entry support, NHPC Launch and Launch support and the 24-hour requirement for Space Geodesy.**
- 3. (34BWG1) The projected unsupportable time range from low to moderate in weeks 01 and 02 and from severe to extreme in weeks 03 and 04. The projected unsupportable time is due to New Horizons launch, initial acquisition and early ops support in week 02. In weeks 03 and 04 projected unsupportable time is caused by continuous coverage requirement for NHPC and view period overlap in the Mars and daylight maintenance view period.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

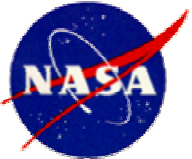
**2006 – January (Weeks 01 - 04) (continued)**



### **ANALYSES**

4. (34BWG2) The projected unsupportable time range from low to moderate in week 01 for MGS and SDU Earth entry and TCM support. This is due to MGS, SDU sharing the same view period and their view period overlapping with DSS maintenance.

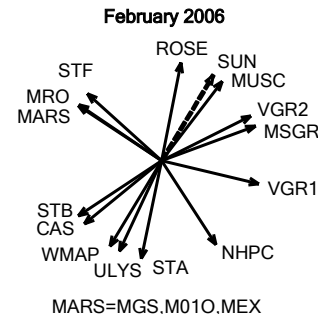
Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – February (Weeks 05 - 08)



#### EVENT

**ATOT A01 Astrometry semi-annual event at DSS-43 in week 07**

**Cassini tour**

**EGS EVN J-M4 quarterly epoch at DSS-14\63 beginning in week 07 and Global VLBI quarterly epoch at DSS-14\63 beginning in week 07**

**Goldstone Solar System Radar Venus RSD with GBT**

**Hayabusa (MUSES-C) TCM-3 ending in week 07**

**Mars Odyssey THEMIS**

**Mars Express EOPM week 06, DOY 042, Orbital Science, Occultation and bi-static radar**

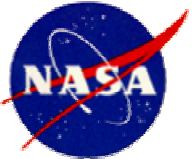
**Mars Reconnaissance Orbiter TCM-3 in week 04 DOY 029, approach and Delta DOR**

**MESSENGER Flip/Flop maneuver in week 08, DOY 053**

**New Horizons early operations continuous ending in week 06**

**SOHO Keyhole event beginning in week 08, DOY 055**

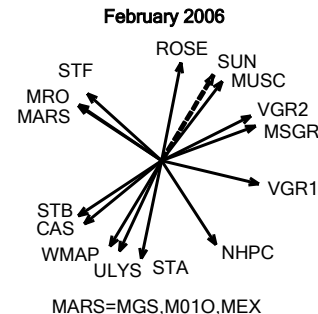
**Stardust post Earth return and EOPM in week 07, DOY 046**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – February (Weeks 05 - 08)



#### EVENTS

**STEREO Ahead Launch and initial acquisition DOY 042, Launch support beginning in week 06 and maneuver support beginning in week 07**

**STEREO Behind Launch and initial acquisition DOY 042, Launch support beginning in week 06 and maneuver support beginning in week 07**

**Voyager 1 MAGROL in week 05, DOY 034**

**Wilkinson Microwave Anisotropy Probe maneuver in week 07**



# RESOURCE ALLOCATION REVIEW BOARD

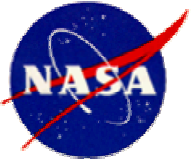
## Events, Recommendations and Analyses

2006 – February (Weeks 05 - 08) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development delete all support. (1)
- ☺ CHDR move 7 of 21 passes from 34BWG1 subnet to the 26M subnet and increase pass duration from 1 hour to 2 hours. (3)
- ☺ CLU2 SSO delete requirement for DSS-45 and DSS-15 and delete 1 of 2 supports per week in weeks 06 – 07. (1,2,3)
- ☺ EGS EVN Calibration and EVN JM-4 move supports from week 07 to weeks 09 and 10. Move Global VLBI support from weeks 06 to week 07. (1)
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 06 and reduce support duration from 8 hours to 6 hours. Delete Host Country support at DSS-45 and DSS-63 and all PRA-GAVRT CAL support. (1,2)
- ☺ GSSR GODR move support from week 06 to week 05. (1,2)
- ☺ M01O THEMIS maximize MSPA capability; move 7 passes from the 70M to DSS-14,63 and MSPA with MEX and reduce one 10-hour MSPA pass in week 05 at DSS-14 to accommodate VGR1 MAGROL. M01O Mapping and MSPA with MGS delete 3 of 7 passes at the 70M. (1)





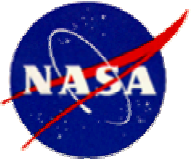
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – February (Weeks 05 - 08) (continued)

### RECOMMENDATIONS

- ☺ MEX Orbital Science and MSPA with MGS delete 1 to 2 passes in week 01 and 02 and maximize MSPA capability with M01O THEMIS at the 70M. Reduce one 10-hour MSPA pass in week 05 at DSS-14 to accommodate VGR1 MAGROL. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MGS Mapping and MSPA with MEX Orbital Science delete 1 to 2 passes in week 01 and 02. Delete 3 of 7 MSPA passes with M01O Mapping at the 70M. Delete two 4-hour passes at the 34BWG2 subnet in week 06. Move 3 passes from the 34BWG2 subnet to the 34BWG1 subnet and change the 10-hour passes to split passes of 5 hours each in week 07. MSPA capability will be maximize in week 06 to meet requirements wherever possible. (1,4)
- ☺ MRO Approach move 3 passes per week from DSS-15,45,55 to the 70M, move remaining passes from DSS-15,45,55 to DSS-15,43,55 in weeks 06 – 08. (2,4)
- ☺ MSGR Cruise move 1 to 2 passes in weeks 05 and 06 and move 3 of 10 passes in week 08 from DSS-26,34,55 to DSS-26,55. (2)
- ☺ MUSC TCM move passes from DSS-25,34,54 to DSS-25,54 in weeks 06 and 07. (3)
- ☺ NHPC Early Ops move 3 passes from the 34HEF to 34BWG2 subnet in weeks 05 and 06 and delete 2 of 16 passes at the 34BWG1 subnet in week 06. Move 8 to 11 passes from the 34BWG1 subnet to the 34BWG2 subnet. (1,2)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

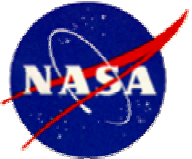
2006 – February (Weeks 05 - 08) (continued)



### RECOMMENDATIONS

RFC CAT M&E S/X delete 24-hour supports in weeks 05 and 06. Delete X/Ka Pass 6-hour support in weeks 07 and 08. (2)

- ☺ ULYS move passes from the 34BWG1 subnet to the 70M in weeks 05, 06, and 08. Delete the 1-hour ranging pass at the 34BWG1 subnet in week 07. Increase the duration of 1 pass from 5 hours to 6 hours to accommodate ranging in week 07. (3)
- ☺ VGR1 reduce all pass duration from 8 hours to 5 hours in week 05. Move 3 to 4 passes from DSS-26 to DSS-14 and from DSS-55 to DSS-63 and reduce all pass duration from 5 hours to 4 hours in weeks 06 – 08. (4)
- ☺ VGR2 reduce pass duration from 8 hours to 4 hours and move passes from DSS-45 to DSS-43. (1,2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

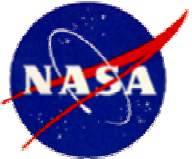
## **Events, Recommendations and Analyses**

**2006 – February (Weeks 05 - 08) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme due to over subscription in the Mars view period and view periods overlapping with daylight maintenance, compounded by the 24-hour support for ATOT A01 Astrometry in week 07 and two 8-hour EVN supports in weeks 07 and 08. DSS Bearing and routine maintenance projected unsupportable time range from moderate to severe. M01O, M01O MSPA with MGS mapping, MEX Orbital Science and occultation, and STF projected unsupportable time range from severe to extreme. GSSR Venus RSD, EGS, GBRA, VGR1 MAGROL, and VGR 2 routine support projected unsupportable time is low to moderate.
2. (34HEF) Moderate to severe unsupportable time is projected for CLU2 SSO, DSS maintenance, GBRA host Country, SDU post earth entry, STB Launch, maneuver and phasing support, and for VGR2 routine support. The unsupportable time is due to view period overlap in the Mars and daylight maintenance view period, new support for SDU post earth entry, Launch and Launch support for STEREO and compounded by continuing Launch support (early ops) for NHPC.
3. (34BWG1) Low to moderate is the projected unsupportable time for CLU2 SSO, MRO approach and Delta DOR, MSGR cruise and Flip/Flop maneuver, Hayabusa TCM, and NHPC early ops.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

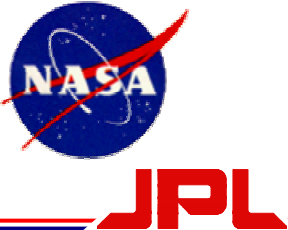
**2006 – February (Weeks 05 - 08) (continued)**



### **ANALYSES**

3. (34BWG1 continued) The projected unsupportable time is moderate to extreme for SOHO Keyhole, STEREO A and B Launch support, maneuver and backup maneuver, and phasing, ULYS and VGR2. The projected unsupportable time is due to over subscription of the subnet in the Mars and daylight view period and Mars view period overlapping with daylight maintenance by 60 percent.
4. (34BWG2) The projected unsupportable time is moderate to severe for Cassini tour, DSN Antenna Calibrations, DSS maintenance, MGS mapping, MRO approach and Delta DOR, MSGR cruise STEREO A and B Launch support, maneuver, and backup maneuver support, and VGR1 routine support and extreme for STEREO A phasing in week 07. The projected unsupportable time is due to over subscription in the Mars view period, Mars view periods overlapping with daylight maintenance and STEREO A and B Launch, Launch support, maneuver and backup maneuver support and is further compounded by new post earth entry requirements for SDU in weeks 05 – 07 and continuing support for NHPC early ops.

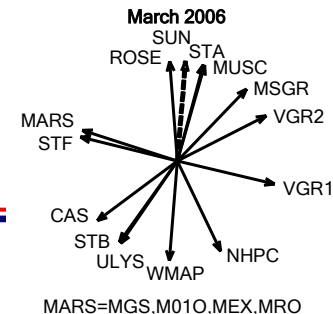
**Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – March (Weeks 09 - 13)



#### EVENTS

Cassini tour

Chandra ACA Dark Current measurement in week 10

Cluster II EOEM in week 09, DOY 059

Goldstone Solar System Radar Mercury Radar Random Long Code (RLC) with Arecibo, Venus RSD with GBT and Asteroid 2000 PN9 in weeks 09 and 10

Mars Odyssey THEMIS

Mars Express Orbital Science, Occultation and bi-static radar

Mars Reconnaissance Orbiter TCM-4 in week 09, DOY 059, TCM-5 and MOI in week 10, DOY 068 and 069, approach ending in week 11, DOY 073, and aerobraking continuous support beginning in week 11, DOY 074

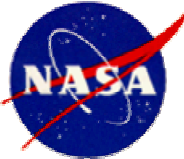
New Horizons early operations ending in week 10, DOY 067

SOHO Keyhole event ending in week 11, DOY 078 and HSO continuous beginning in week 12

STEREO Ahead maneuver in weeks 10 and 12

STEREO Behind maneuver in weeks 10 and 12

Voyager 2 DTR array P/B in week 10, DOY 068, ASCAL and MAGROL in week 11, DOY 072 and 075



# RESOURCE ALLOCATION REVIEW BOARD

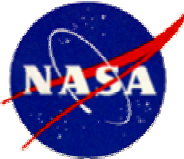
## Events, Recommendations and Analyses

2006 – March (Weeks 09 - 13) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development reduce support duration from 8 hours to 4 hours and delete 1 support per week in weeks 11 – 13. (1)
- ☺ CHDR move 7 of 21 passes per week from the 34BWG1 subnet to 26M subnet and increase pass duration from 1 hour to 2 hours. (3)
- ☺ DSS Bearing maintenance move from week 10 to week 11 at DSS-14 and reduce routine maintenance at DSS-43 to accommodate VGR2 ASCAL in week 11. (1)
- ☺ GBRA Guest Observations delete all supports. Reduce Host Country support duration from 8 hours to 5 hours at DSS-43 and DSS-45, move support from week 09 to week 13 at DSS-43 and move support from week 11 to week 13 at DSS-63. Delete PRA-GAVRT CAL support in week 09. (1,2)
- ☺ GSSR Asteroid 2000 PN9 reduce support duration from 8 hours to 6 hours and move 1 of 5 supports from week 10 to week 09. (1)
- ☺ M01O Mapping and MSPA with MGS Mapping delete 2 of 4 passes in weeks 09 – 11. MSPA with MEX Orbital Science 4 of 7 THEMIS passes at DSS-14,63 in weeks 09 and 11, 5 of 7 THEMIS passes in week 10 and 7 THEMIS passes in weeks 12 and 13. MSPA an additional 5 to 7 passes per week with MGS Mapping at the 34BWG1 and 34BWG2 subnets in weeks 09 – 12. (1)



# RESOURCE ALLOCATION REVIEW BOARD

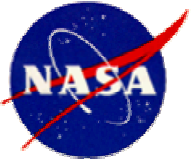
## Events, Recommendations and Analyses

2006 – March (Weeks 09 - 13) (continued)

### RECOMMENDATIONS

- ☺ MEX Orbital Science MSPA with M01O THEMIS 4 of 7 passes at DSS-14,63 in weeks 09 and 11, 2 of 4 passes in week 10, and 7 passes in weeks 12 and 13 and delete the remaining 2 passes in week 10. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MGS Mapping and MSPA with M01O Mapping delete 2 of 4 passes at the 70M in weeks 09 and 11, delete the 5 standalone passes at DSS-45,34BWG2 in week 12. Add an additional 2 to 4 passes per week at the 34BWG1 subnet and MSPA 5 to 7 passes with M01O Mapping at the 34BWG1 and 34BWG2 subnets in weeks 09 – 12. (1,2,4)
- ☺ MRO Aerobraking move 4 of 21 passes from DSS-15,45,55 to DSS15,34,55 in week 12. (2)
- ☺ MSGR Cruise move 3 to 5 passes from DSS-26,34,55 to DSS-26,45,55 in weeks 09 and 10. (3)
- ☺ NHPC Cruise move 5 of 10 passes from 34BWG1 to 34HEF in week 10. (3)
- RFC CAT M&E S/X and X/Ka reduce supports from 24 hours to 12 hours, move CAT M&E S/X supports from week 12 to week 13 and move X/Ka supports from week 09 to week 10. (2,3,4)
- ☺ SOHO Keyhole move 2 of 8 passes from 70M/26M to 34HEF/26M and 2 of the remaining 6 passes to the 34BWG1 subnet in weeks 09 and 10. (1)





# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

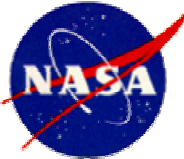
2006 – March (Weeks 09 - 13) (continued)



### RECOMMENDATIONS

- ☺ STF move 14 passes from DSS-14,43 to the 70M. (1)
- ☺ ULYS move all passes from the 34BWG1 to DSS-34,43. (3)
- ☺ VGR1 delete 1 of 7 passes at DSS-26 and DSS-55 in weeks 09 and 13, and 2 of 7 in week 10. Add two 4-hour passes each at DSS-15,24 and DSS-54,65 in weeks 09 and 13 and add four 4-hour passes each at DSS-15,24 and DSS-54,65 in week 10. (4)





# **RESOURCE ALLOCATION REVIEW BOARD**

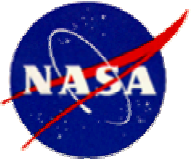
## **Events, Recommendations and Analyses**

**2006 – March (Weeks 09 - 13) (continued)**



### **ANALYSES**

- 1. (70M) Low to moderate unsupportable time is projected for GBRA activities, GSSR Asteroid 200PN and Venus radar, M01O, M01O and MGS MSPA, MGS mapping, MRO MOI, SOHO Keyhole and Keyhole maneuver, STF and VGR 2 ASCAL supports. The projected unsupportable time for DSS maintenance, Bearing maintenance, MEX Orbital science and Occultation and MEX and M01O MSPA is severe to extreme. The projected unsupportable time is due to Cassini, GSSR, Mars, and maintenance view periods all overlap with each other by 75 to 85 percent for this period. The Mars view period is oversubscribed with M01O, MEX, MGS, and MRO.**
- 2. (34HEF) The projected unsupportable time is moderate for DSS maintenance for this period, for SGP in week 13, and for STEREO B Maneuver support in weeks 12 and 13. The unsupportable time for MGA mapping in week 12 is extreme. The unsupportable time is due to View period overlap in the Mars and daylight maintenance view period.**
- 3. (34BWG1) The projected unsupportable time in weeks 09 and 10 is moderate for MGS mapping, MRO approach, MSGR cruise, NHPC cruise and early ops, Reference Calibration (RFC) Cat M&E X/Ka-band, STEREO A maneuver, STEREO B backup maneuver and ULYS. The unsupportable time is due to view period overlap in the daylight maintenance view period and STEREO B backup maneuver support and the 24-hour Reference Calibration support that requires simultaneous support at 2 antennas.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

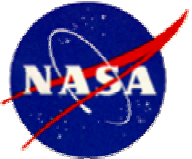
**2006 – March (Weeks 09 - 13) (continued)**



### **ANALYSES**

4. (34BWG2) The projected unsupportable time is moderate to severe for DSS maintenance, MGS mapping, MSGR cruise, STEREO A and B maneuver and Backup maneuver, and VGR 1 routine support. The projected unsupportable time is due to view period overlap with DSS maintenance, 24-hour simultaneous RFC Cat M&E supports, MRO aerobraking continuous support, and MGS 10-hour supports.

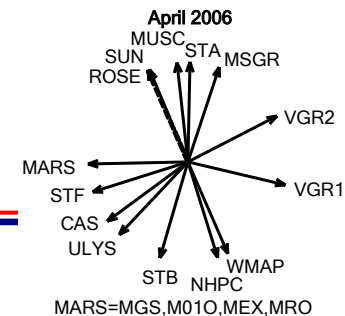
Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparation and negotiations.



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – April (Weeks 14 - 17)



#### EVENTS

Cassini tour

Goldstone Solar System Radar Mercury Radar in weeks 16 and 17

Mars Odyssey THEMIS ending in week 17

Mars Express Orbital Science, Occultation and bi-static radar

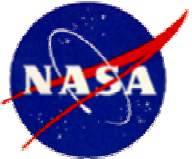
Mars Reconnaissance Orbiter aerobraking continuous support

SOHO HSO continuous

STEREO Ahead Lunar swingby in week 14, DOY 98 and maneuver in weeks 14 and 17

STEREO Behind Lunar swingby in week 14, DOY 98, maneuver, and Prime Science beginning in week 14

Voyager 1 DTR array P/B in week 17, DOY 117



# RESOURCE ALLOCATION REVIEW BOARD

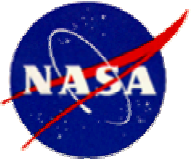
## Events, Recommendations and Analyses

2006 – April (Weeks 14 - 17) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports in week 14.
- ☺ DSN Antenna Calibration move support at DSS-14 from week 14 to week 15.
- ☺ GBRA Guest Observations delete 1 of 2 supports in week 14. Reduce PRA-GAVRT CAL support duration from 8 hours to 6 hours and delete 1 of 2 supports in week 14.
- ☺ M01O THEMIS move 7 passes from the 70M to DSS-14,63 only and MSPA all 7 passes with MEX Orbital Science and Occultation.
- ☺ MEX Orbital Science and Occultation delete all 6-hour and 8-hour passes at DSS-14,63 and MSPA 7 passes with M01O THEMIS.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

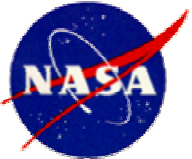
**2006 – April (Weeks 14 - 17) (continued)**



### **ANALYSES**

(70M) The projected unsupportable time for this period is severe for DSS and Bearing maintenance and for MEX Orbital Science and occultation and moderate for GBRA activities, M01O MSPA with MGS mapping, STF routine support, and VGR1 DTR array playback at DSS-14\63. The projected unsupportable time is caused by Mars view periods overlapping with daylight maintenance, CAS, Mercury, STA, STB, STF and VGR1.

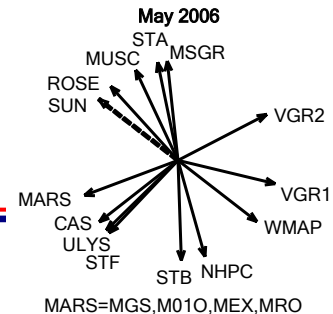
Contention levels on the 34HEF, 34BWG1, 34BWG2, 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – May (Weeks 18 - 21)



#### EVENTS

DSS-63 approved downtime (antenna controller replacement) beginning in week 21

Cassini tour

Goldstone Solar System Radar Mercury Radar in week 19

Mars Express Occultation ending in week 18, Orbital Science and bi-static radar

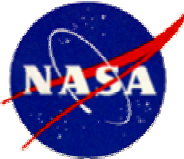
Mars Reconnaissance Orbiter aerobraking continuous support

SOHO HSO continuous ending in week 20 and Keyhole event beginning in week 21

STEREO Ahead maneuver in week 19, Lunar swingby in week 20, DOY 136 and Prime Science beginning in week 20

STEREO Behind Prime Science

Voyager 1 ASCAL and MAGROL in week 18, DOY 122 and 125



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – May (Weeks 18 - 21) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports at the 70M in weeks 18 and 20 and delete all supports in weeks 19 and 21. (1)
- ☺ CHDR move 7 of 21 passes from 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (3)
- ☺ GBRA Guest Observation delete support in week 19. Reduce Host Country supports from 8 hours to 5 hours at DSS-43, DSS-45, and DSS-63 in weeks 18 – 20. Reduce PRA-GAVRT CAL support duration from 9 hours to 6 hours in weeks 18, 19, and 21. (1)
- ☺ GSSR Mercury Radar reduce support duration from 5.2 hours to 4 hours in week 19. (1)
- ☺ M01O Mapping change 3 standalone passes to MSPA with MGS Mapping at the 70M in week 19 and move MSPA passes with MGS Mapping from DSS-14,43 to the 70M in week 21. (1)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

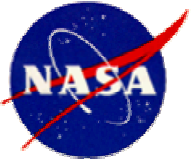
2006 – May (Weeks 18 - 21) (continued)



### RECOMMENDATIONS

- ☺ MEX Orbital Science and Occultation MSPA 4 standalone passes with MGS Mapping at DSS-14,63 in week 18. Move 7 passes from DSS-15,26 and MSPA with MGS Mapping two 8-hour passes at DSS-14,24,54 in weeks 19 and 21, three 8-hour passes in week 20, two 8-hour passes in week 19, three 8-hour passes in week 20 and two 8-hour passes in week 21 at DSS-15,25,26 . Add one to three 8-hour standalone passes at DSS-24,54 in weeks 19 – 21. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,2,4)
  - ☺ MGS Mapping move 3 passes from the 34BWG1 and 1 pass from 34HEF to DSS-14,63 and MSPA with MEX Orbital Science and Occultation in week 18. Move 7 standalone mapping passes to MSPA with MEX Orbital Science and Occultation as follows: two 8-hour passes at DSS-14,24,54 in weeks 19 and 21, three 8-hour passes in week 20 and two 8-hour passes in week 19, three 8-hour passes in week 20 and two 8-hour passes in week 21 at DSS-15,25,26 . (1,2,3,4)
  - ☺ MSGR Cruise move 3 passes from DSS-26,34,55 to 34BWG1 in weeks 19 and 21 . (4)
- RFC CAT M&E S/X and X/Ka reduce supports from 24 hours to 12 hours in weeks 18 and 21. (2,3,4)
- ☺ SOHO Keyhole move passes from the 34BWG1 to 26M/34HEF in week 21. Additional support during the keyhole periods will be added on a best efforts basis in Mid-range Scheduling. (2)





# RESOURCE ALLOCATION REVIEW BOARD

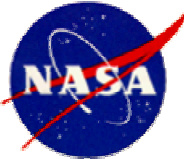
## Events, Recommendations and Analyses

2006 – May (Weeks 18 - 21) (continued)



### RECOMMENDATIONS

- ☺ STA Prime Science maneuver move passes from DSS-25,34,55 to DSS-24,45,54 in week 19. (4)
- ☺ ULYS move passes from 34BWG1 to DSS-43 in week 21. (3)
- ☺ VGR1 reduce pass duration from 8 hours to 6 hours at DSS-26 and DSS-55 and move passes from DSS-26 to DSS-25,26 in week 20. (4)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

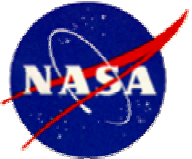
**2006 – May (Weeks 18 - 21) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time range from moderate to severe for DSS routine and Bearing maintenance and EGS Global VLBI support in week 40. Low to moderate in week 18 for MEX Orbital Science and occultation, and for STF in weeks 18 and 21. The unsupportable time is due to MEX and STF view periods overlap with DSS maintenance, the three 8-hour EGS Global VLBI support and the approved downtime for DSS-63.
2. (34HEF) The projected unsupportable time for DSS maintenance, MEX Orbital Science and MGS mapping is severe and moderate for GBRA Host Country and Space Geodesy. The unsupportable time is due to MEX and MGS view periods overlap with DSS maintenance, and three 24-hour supports for SGP in this period.
3. (34BWG1) The projected unsupportable time is low to moderate for SOHO Keyhole and STA maneuver in week 19, DSS maintenance, MGS mapping, SOHO Keyhole and ULYS in week 21. The unsupportable time is caused by oversubscription in the Mars and daylight maintenance view period and in week 21 the simultaneous 24-hour RFC CAT M&E support.
4. (34BWG2) DSS maintenance, MGS mapping, MSGR cruise, and VGR1's projected unsupportable time is moderate for weeks 19 through 21 due to view period overlap in the daylight and Mars view period.

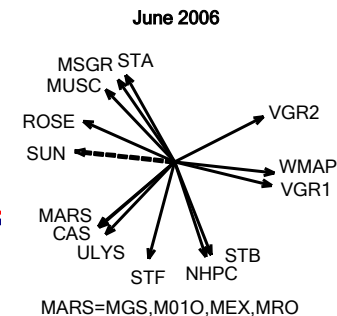
**Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2006 – June (Weeks 22 - 26)**



#### **EVENTS**

**DSS-63 approved downtime (antenna controller replacement)**

**Cassini tour**

**Dawn Launch and initial acquisition in week 24, DOY 168 and Launch support in weeks 25 and 26**

**EGS Global VLBI quarterly epoch at DSS-14\63 beginning in week 22**

**Goldstone Solar System Radar Asteroid 2004 DC and Mercury Radar observation**

**Mars Express bi-static radar in week 20 and Orbital Science**

**Mars Reconnaissance Orbiter aerobraking continuous support**

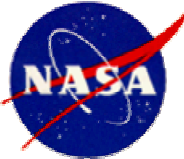
**SOHO Keyhole event ending in week 24, DOY 184**

**STEREO Ahead Prime Science and SECCHI campaign beginning in week 24**

**STEREO Behind Prime Science and SECCHI campaign beginning in week 24**

**Voyager 2 MAGROL in week 24, DOY 167**

**Wilkinson Microwave Anisotropy Probe maneuver in week 23**



# RESOURCE ALLOCATION REVIEW BOARD

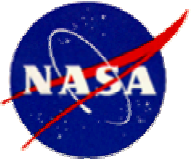
## Events, Recommendations and Analyses

2006 – June (Weeks 22 - 26) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete all supports. (1)
- ☺ DSS Maintenance delete 1 of 2 routine maintenance supports per week at DSS-14 during the DSS-63 downtime. (1)
- ☺ EGS Global VLBI move the three 8-hour supports from week 22 to 1 support in week 23 and 2 supports in week 24. (1)
- ☺ GBRA Guest Observation delete all supports. Delete Host Country support at DSS-43 and DSS-45 and PRA-GAVRT CAL support. (1)
- ☺ GSSR Asteroid 2004 DC delete 3 of 6 supports in week 22. (1)
- ☺ M01O mapping MSPA with MGS mapping reduce all pass duration from 12 hours to 8 hours at DSS-14 in weeks 22 – 24. Move 1 pass each per week from DSS-14 to DSS-43 and move and MSPA the remaining passes with MEX at DSS-25,26,55 in weeks 22 – 24. Move 1 pass per week from DSS-43 to DSS-25,26,55 and MSPA with MEX in weeks 25 and 26. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MEX move 3 passes from DSS-15,26 to DSS-25,26,55 and MSPA with MGS. Move 3 to 4 pass from DSS-15,26 to DSS-25,26,55 and MSPA with M01O in weeks 22 – 24. Move 1 pass from DSS-15,26 to DSS-25,26,55 and MSPA 1 pass per week with M01O in weeks 25 and 26. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,2,4)



# RESOURCE ALLOCATION REVIEW BOARD

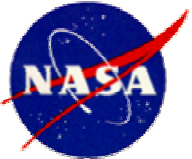
## Events, Recommendations and Analyses

2006 – June (Weeks 22 - 26) (continued)



### RECOMMENDATIONS

- ☺ MGS delete 34BWG1 and 34BWG2 4 hour standalone passes and MSPA three 8-hour passes with MEX at DSS-15,25,26. Maximize MSPA capability to meet requirements will be implemented wherever possible. (3,4)
- ☺ MRO delete the three 34HEF passes in week 25, 6 to 7 passes at DSS-15,45,55 in weeks 24 – 26. To maintain continuous coverage, add 2 passes in week 24 and add 3 passes in weeks 25 and 26 at DSS-24,43,55. Add 5 passes in week 24, 4 passes in week 25 and add 3 passes in week 26 at DSS-25,26,34,54. (2,4)
- ☺ SOHO Keyhole move 7 passes from the 70M/26M to the 34HEF/26M in weeks 22 and 23 and delete 3 of 6 passes at the 34BWG1 in week 24. Additional support during the keyhole periods will be added on a best efforts basis at 70M/26M and or 34H/26M in Mid-range Scheduling. (1,3)
- ☺ STA Prime Science move passes from DSS-25,34,55 to 34HEF in weeks 24 – 26. (3,4)
- ☺ ULYS move from the 34BWG1 subnet to DSS-43 in weeks 22, 24 – 26. (3)
- ☺ VGR1 reduce pass duration from 8 hours to 4 hours at DSS-26 and from 8 hours to 6 hours at DSS-55 in weeks 24 – 26. (4)
- ☺ VGR2 reduce pass duration from 8 hours to 6 hours and move from DSS-43,45 to DSS-43,34 in week 25. Reduce all pass duration from 8 hours to 6 hours, move 2 of 5 passes from DSS-43,45,34 to DSS-43 and move the remaining 3 passes to DSS-43,34 in week 26. (1,2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

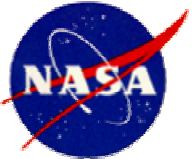
**2006 – June (Weeks 22 - 26) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupportable time for this period is severe to extreme for DSS and Bearing maintenance, GBRA activities in week 23, M01O mapping MSPA with MGS mapping, SOHO Keyhole and maneuver, and STF routine support in week 23. The unsupportable time is caused by all view periods are overlapped by 80 to 90 percent and the approved downtime for DSS-63.**
- 2. (34HEF) The projected unsupportable time is moderate for Dawn Launch and acquisition, MEX Orbital Science, and SGP and severe to extreme for DSS maintenance. The unsupportable time is caused by Dawn, MEX and daylight maintenance view periods overlap and the 24-hour SGP supports.**
- 3. (34BWG1) The projected unsupportable time is moderate to severe for MGS mapping, MSGR cruise, SOHO Keyhole, STA Prime Science and SECCHI campaign, and routine supports for ULYS. The unsupportable time is caused by oversubscription in the daylight maintenance view period and the 24-hour simultaneous RFC CAT M&E support.**
- 4. (34BWG2) MEX and MGS view periods overlap with DSS maintenance by 85 percent and with VGR1 by 75 percent which causes low to moderate unsupportable time for this period.**

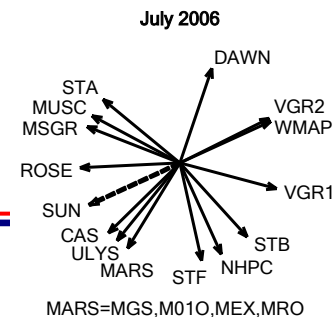
**Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2006 – July (Weeks 27 - 30)**



#### **EVENTS**

**DSS-63 approved downtime (antenna controller replacement)**

**Cassini tour**

**Chandra ACA Dark Current measurement in week 27**

**Dawn Launch support ending in week 27**

**Goldstone Solar System Radar Mercury RSD with GBT, Mercury Radar, and Mercury Radar RLC with Arecibo observations**

**Hayabusa (MUSES-C) TCM-4 in weeks 28 – 30**

**Mars Express bi-static radar in week 28 and Orbital Science**

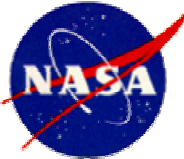
**Mars Reconnaissance Orbiter aerobraking continuous support**

**MESSENGER Flip/Flop maneuver in week 27**

**STEREO Ahead Prime Science and SECCHI campaign ending in week 28**

**STEREO Behind Prime Science and SECCHI campaign ending in week 28**





# RESOURCE ALLOCATION REVIEW BOARD

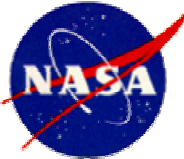
## Events, Recommendations and Analyses

2006 – July (Weeks 27 - 30) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development delete supports in weeks 27 – 29 and 1 of 2 supports in week 30 and reduce support duration from 8 hours to 4 hours in week 30. Mission change 24-hour support to three 8-hour supports and move 1 support each from week 28 to weeks 26 and 27. (1)
- ☺ CHDR move 7 of 14 passes from 34BWG1 to the 26M subnet and increase pass duration from 1 hour to 2 hours. (3)
- ☺ GBRA Guest Observation delete support in weeks 27 and 28 and reduce support duration from 8 hours to 4 hours. Delete Host Country support at DSS-45 in week 27. Delete PRA-GAVRT CAL supports in weeks 27 and 28 and reduce support duration from 9 hours to 4 hours in weeks 29 and 30. (1,2)
- GSSR Mercury RSD GBT delete 3 of 5 supports in week 27, delete the 4-hour Mercury Radar support in week 28, and reduce Mercury RLC with Arecibo supports from 3 to 2 in week 28. (1)
- ☺ IMAG move 5 of 13 passes per week from the 34BWG1 subnet to 34HEF/26M subnet in weeks 28 - 30. (1)





# RESOURCE ALLOCATION REVIEW BOARD

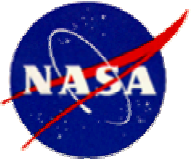
## Events, Recommendations and Analyses

2006 – July (Weeks 27 - 30) (continued)



### RECOMMENDATIONS

- ☺ M01O Mapping and MSPA with MGS Mapping reduce 1 of 5 passes with MGS from 12 hours to 8 hours and move from DSS-14 to DSS-43 in week 27. Delete one of three 12-hour passes at DSS-14 in week 28. Delete 2 to 3 MSPA passes with MGS at the 34BWG1 subnet. MSPA 4 passes per week with MEX Orbital Science at DSS-25,26,55. (1,3)
- ☺ MEX Orbital Science move 4 of 7 passes from DSS-15,26 to DSS-25,26,55 and MSPA with M01O Mapping, move remaining 3 passes to DSS-24,54 and MSPA with MGS Mapping. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,2,3,4)
- ☺ MGS Mapping and MSPA with M01O Mapping reduce 1 of 5 passes with M01O in week 27 from 12 hours to 8 hours and move from DSS-14 to DSS-43. Delete one of three 12-hour passes at DSS-14 in week 28. Delete 2 to 3 passes with M01O at the 34BWG1 subnet and MSPA 3 passes per week with MEX Orbital Science at DSS-24,54. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,3)
- ☺ MRO Aerobraking move 3 of 21 passes from DSS-15,45,55 to the 34BWG1 subnet and move remaining passes to 34HEF,34BWG2 in weeks 28 – 30. (2,4)
- ☺ NHPC Cruise move 2 passes from the 34BWG1 subnet to DSS-26,55 in week 27 and move remaining passes from the 34BWG1 subnet to DSS-24,54 in weeks 28 – 30. (3)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – July (Weeks 27 - 30) (continued)



### RECOMMENDATIONS

RFC CAT M&E S/X reduce support durations from 18 hours to 12 hours in weeks 29 and 30. Reduce CAT M&E X/Ka support durations from 24 hours to 12 hours in weeks 27 and 28. Move X/Ka Pass 6-hour support from week 27 to week 30. (2,3,4)

☺ STB Prime Science move passes from DSS-26,34,54 to the 34HEF subnet. (3,4)

☺ ULYS move passes from 34BWG1 subnet to DSS-43. (3)

☺ VGR1 reduce pass duration from 6 hours to 4 hours at DSS-26 and DSS-55. (4)

☺ VGR2 delete all passes at DSS-43,45 and DSS-43,45,34. Add two 6-hour passes at DSS-43 in week 27, three 6-hour passes in week 27 and five 6-hour passes in weeks 28 – 30 to DSS-43,45,34 and two 4-hour passes per week at DSS-34,45. (1,2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

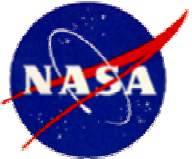
## **Events, Recommendations and Analyses**

**2006 – July (Weeks 27 - 30) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupportable time for 70M users range from moderate to extreme. Moderate unsupportable time is projected for CAS tour, GBRA activities in week 27, M01O Mapping MSPA with MGS mapping in weeks 29 and 30 and STF. Severe to extreme unsupportable time is projected for DSS routine and Bearing maintenance, GBRA activities in week 28 and extreme for GSSR Mercury activities and M01O mapping MSPA with MGS mapping in weeks 27 and 28. The projected unsupportable time is caused by oversubscription of the subnet in the Mars and daylight maintenance view periods and the approved downtime for DSS-63.**
- 2. (34HEF) The projected unsupportable time for this period is severe for DSS Maintenance, MEX Orbital Science and SGP and moderate for MSGR Flip/Flop maneuver in week 27. The unsupportable time is caused by view period overlap of the Mars missions with daylight maintenance and the 24-hour support requirements for SGP in week 28 and RFC CAT M&E S/X-band VLBI simultaneous supports in weeks 27 and 28 and ULYS routine support.**
- 3. (34BWG1) The unsupportable time projected for the 34BWG1 subnet range from moderate to severe for DSS maintenance, MGS mapping MSPA with M01O mapping, MSGR cruise and Flip/Flop maneuver, NHPC cruise, RFC CAT M&E X/Ka-band VLBI simultaneous supports in weeks 27 and 28 and ULYS routine support. The unsupportable time is caused by view period overlap of all the missions and further impacted by the 24-hour simultaneous RFC supports.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

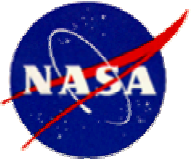
**2006 – July (Weeks 27 - 30) (continued)**



### **ANALYSES**

4. (34BWG2) The projected unsupportable time for this period on the 34BWG2 range from moderate to severe. Moderate unsupportable time is projected for MEX Orbital Science, MRO aerobraking, MSGR cruise, RFC CAT M&E X/Ka-band VLBI simultaneous supports in weeks 27 and 28, and VGR1 routine supports. The projected unsupportable time is caused by oversubscription of the subnet in the Mars and daylight maintenance view periods and the 24-hour requirements for RFC CAT M&E X/Ka-band VLBI simultaneous supports.

Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.

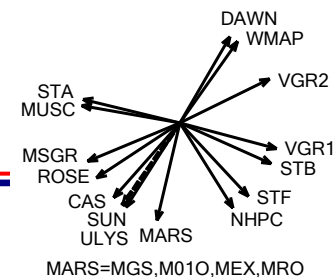


# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – August (Weeks 31 - 35)

August 2006



#### EVENTS

**DSS-63 approved downtime (antenna controller replacement) ending in week 35**

**Cassini tour**

**Goldstone Solar System Radar Mercury RSD with GBT in week 32, with Arecibo in weeks 34 and 35, and Mercury Radar observations in weeks 33 and 34**

**Mars Express bi-static radar in week 33 and Orbital Science**

**Mars Reconnaissance Orbiter aerobraking continuous support**

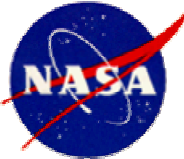
**Rosetta Delta DOR test in weeks 32 - 33 and Mars swingby (Gravity Assist) beginning in week 35, on DOY 240**

**SOHO Keyhole event beginning in week 34, DOY 235**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**

**Voyager 1 MAGROL in week 31, DOY 217**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

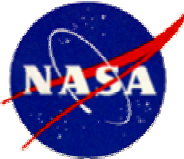
2006 – August (Weeks 31 - 35) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports in weeks 31-34 and reduce support duration from 8 hours to 4 hours in weeks 32 - 35. (1)
- ☺ DSS Maintenance reduce from 8 hours to 6 hours at DSS-24 in weeks 34 and 35, at DSS-25 in weeks 32 and 34 and at DSS-26 in weeks 31 and 35. (3,4)
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 31, delete supports in weeks 32 and 34 and reduce support duration from 8 hours to 4 hours in week 33. Reduce Host Country support from 8 hours to 5 hours at DSS-45. Delete PRA-GAVRT CAL supports in weeks 32, 33 and 35 and reduce support duration from 9 hours to 6 hours in weeks 31 and 35. (1,2)

GSSR Mercury RSD with GBT move 2 of 6 supports from week 32 to week 31 and delete 4 supports in week 32. Move 1 of 4 Mercury RSD with Arecibo supports from week 35 to 36 and delete 3 supports in week 35. Delete Mercury Radar support in week 33 and move the support from week 34 to week 38. (1)

M01O Mapping and MSPA with MGS delete two 8 hour passes per week at DSS-43, delete three of four 10-hour passes at DSS-14 in weeks 31, 32, 34 and 35 and one 10 hour pass at DSS-14,43 and at DSS-14 in week 33. Move 3 MSPA passes with MGS from DSS-14 to DSS-43 and reduce pass duration from 10 hours to 8 hours in week 33. Delete remaining 2 to 3 passes per week at the 34BWG2 subnet and MSPA four 8-hour passes per week with MEX Orbital Science at DSS-25,26,55. (1,3,4)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – August (Weeks 31 - 35) (continued)



### RECOMMENDATIONS

- ☺ MEX Orbital Science move 4 of 7 passes from DSS-15,26 to DSS-25,26,55 and MSPA with M01O, move remaining 3 passes to DSS-24,54 and MSPA with MGS. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,2,3,4)

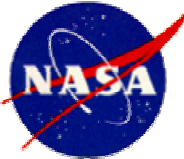
MGS Mapping and MSPA with M01O delete two 8-hour passes per week at DSS-43, delete three of four 10-hour passes at DSS-14 in weeks 31, 32, 34 and 35 and one 10-hour pass at DSS-14,43 and at DSS-14 in week 33. Move 3 MSPA passes from DSS-14 to DSS-43 and reduce pass duration from 10 hours to 8 hours in week 33. Delete remaining 2 to 3 MSPA passes at the 34BWG2 subnet and MSPA three 8-hour passes per week with MEX Orbital Science at DSS-24,54. (1,3,4)

- ☺ MRO Aerobraking move 3 passes from the 34HEF,34BWG2 to the 34HEF in weeks 31 – 34 and move 3 passes per week to the 34BWG1 subnet. (2,3,4)

- ☺ MSGR Cruise move passes from DSS-26,34,55 to 34HEF. (3,4)

RFC CAT M&E S/X and X/Ka reduce support duration from 24 hours to 12 hours in weeks 33 – 35. (2,3,4)





# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

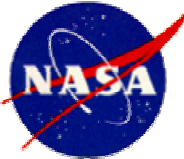
2006 – August (Weeks 31 - 35) (continued)



### RECOMMENDATIONS

- ☺ SOHO Keyhole move 4 of 10 passes from the 34BWG1 to 34HEF/26M and 2 passes to 70M/26M in week 34 and move 3 passes from 70M/26M to 34H/26M in week 35. Additional support during the keyhole periods will be added on a best efforts basis at 70M/26M, 34H/26M or 34BWG1 subnet in Mid-range Scheduling. (1,3)
- ☺ STA Prime Science move passes from DSS-25,34,55 to 34HEF. (3,4)
- ☺ STB Prime Science move passes from DSS-26,34,54 to 34HEF. (3,4)
- ☺ ULYS move passes from 34BWG1 subnet to DSS-43. (3)
- ☺ VGR1 reduce all pass durations from 6 hours to 4 hours and move to DSS-26 and DSS-55. (4)
- ☺ VGR2 delete support at DSS-43 in week 31, add two 4-hour passes per week at DSS-34,45 and one 4-hour pass per week at DSS-43. (1,2,3)





# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

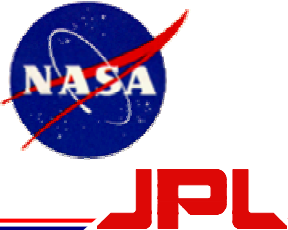
**2006 – August (Weeks 31 - 35) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time for CAS, DSS maintenance, GBRA activities, GSSR Mercury Radar activities, M01O Mapping MSPA with MGS Mapping and SOHO Keyhole event in week 35 is moderate to severe. The unsupportable time is due to Mars mission view period overlap with CAS, daylight maintenance, Mercury, and SOHO view periods. Contention is compounded by the DSS-63 downtime.
2. (34HEF) Severe unsupportable time is projected for DSS maintenance, MEX Orbital Science and SGP. The unsupportable time is due to MEX view period overlap with daylight maintenance and the 24-hour requirement for SGP in week 35.
3. (34BWG1) The projected unsupportable time is moderate for DSS maintenance, SOHO Keyhole event, and routine supports for ULYS and VGR1. The unsupportable time is due to SOHO, ULYS and VGR1 view periods overlap with daylight maintenance, MSGR, MRO, and NHPC compounded by the 24-hour RFC CAT M&E X/Ka-band VLBI simultaneous supports in weeks 33 and 34 .
4. (34BWG2) The projected unsupportable time for DSS maintenance, MGS mapping and MGS MSPA with M01O, MSGR cruise and routine support for VGR1 is moderate to severe. The unsupportable time is due to Mars, MSGR, and VGR1 view periods overlap with daylight maintenance compounded by the 24-hour RFC CAT M&E X/Ka-band VLBI simultaneous supports in weeks 33 and 34.

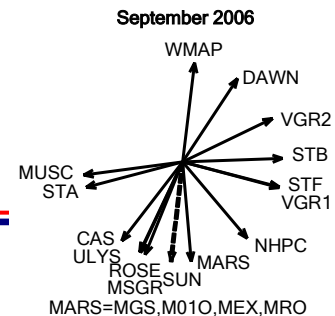
**Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – September (Weeks 36 - 39)



#### EVENTS

**DSS-24 approved downtime (X/X-Ka band) beginning in week 36**

**Cassini tour**

**GSSR Asteroid 2001 CB21 beginning in week 39**

**Mars Express bi-static radar in week 37, Orbital Science in weeks 36 and 37 and Solar Corona R/S beginning in week 38**

**Mars Reconnaissance Orbiter aerobraking continuous support ending in week 37, DOY 256 and transition to Prime Science in week 37, DOY 257**

**MESSENGER Delta DOR support beginning in week 39**

**New Horizons Delta DOR support in weeks 37 and 38**

**Rosetta Mars swingby beginning in week 36, DOY 250**

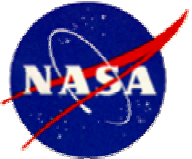
**SOHO Keyhole event ending in week 37, DOY 259**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**

**Voyager 2 DTR P/B in week 36, DOY 249, ASCAL and MAGROL in week 37, DOY 255 and 258**

**Wilkinson Microwave Anisotropy Probe TCM in week 39, DOY 274**



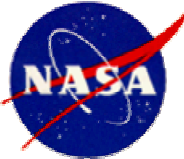
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – September (Weeks 36 - 39) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development change one 8-hour support to two 4-hour supports in week 36, delete 1 of 2 supports in weeks 37 and 38, delete support in week 39 and reduce all support duration from 8 hours to 4 hours in weeks 37 and 38. (1)
- ☺ DSS Maintenance delete 1 of 2 supports at DSS-14 in week 36. (1)
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 37 and delete support in weeks 36 and 39 and reduce the remaining support duration from 8 hours to 6 hours. Host Country reduce supports from 8 hours to 5 hours at DSS-43 and at DSS-63 in weeks 36 and 37, delete support at DSS-45 in week 38. PRA-GAVRT CAL delete supports in week 36 and 39, delete 1 of 2 supports in week 38 and reduce all remaining supports from 8 hours to 4 hours in weeks 37 and 38. (1,2)
- ☺ GSSR Asteroid 2001 CB21 reduce support duration from 8 hours to 6 hours and delete 1 support in week 39. Add one 4-hour Mercury Radar support in week 38. (moved from week 34) (1)
- M01O Mapping and MSPA with MGS Mapping move 1 of 5 passes from 70M to 34BWG1 in weeks 38 and 39, reduce all pass duration from 10 hours to 8 hours and move all passes from 70M to DSS-14,43. Delete 5 MSPA passes with MGS in week 37 and MSPA 5 passes with MRO aerobraking at DSS-14,43 in week 37 and reduce all pass duration from 10 hours to 8 hours at DSS-43 in weeks 36 – 39. (1,2,3,4)**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – September (Weeks 36 - 39) (continued)



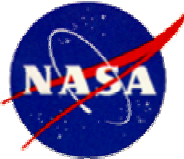
### RECOMMENDATIONS

**MEX Orbital Science MSPA 2 to 3 passes at DSS-15,26 with MGS Mapping at 34HEF in weeks 36 and 37. MEX Orbital Science MSPA all 4 passes at DSS-15,26 with MRO Prime Science at DSS-15,25,26,55,65 in week 37. Move 3 of 7 Solar Corona passes from DSS-14,63 to DSS-15,63 and reduce all pass duration from 10 hours and 8 hours in weeks 38 and 39. (1,2,4)**

**MGS MSPA four 8-hour passes with MRO Prime Science at the 34HEF,34BWG2 in week 37. MSPA the two 10-hour passes at 34HEF with MRO Prime Science and reduce pass duration from 10 hours to 8 hours at DSS-15,25,26,55,65 in weeks 38 and 39. MSPA 2 to 3 passes with MEX Orbital Science at the 34HEF subnet in weeks 36 and 37. (1,2,3,4)**

**MRO Aerobraking MSPA 5 of 8 passes with M01O Mapping at DSS-14,43 and move the remaining 3 standalone passes from DSS-15,45,55 to DSS-25,45,54 in week 37. Move all Prime Science passes in weeks 37 – 39 from DSS-15,45,55,65 to 34HEF,34BWG2. MSPA 2 of 14 Prime Science passes at 34HEF,34BWG2 with MGS Mapping in weeks 38 and 39. MSPA 4 passes at DSS-15,25,26,55,65 with MEX Orbital science. (1,2,4)**

☺ **NHPC Cruise move all passes in weeks 36 and 38 and 1 of 3 passes in weeks 37 and 39 from DSS-34,54 to 34HEF. (3)**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – September (Weeks 36 - 39) (continued)



### RECOMMENDATIONS

RFC CAT M&E S/X delete support at DSS-15\45,15\65 in week 36 and CAT M&E X/Ka support at DSS-26\55,26\34 in week 39. Reduce Clock Sync support duration from 4 hours to 2 hours at DSS-15\65 in weeks 37 and 39. (2,3)

☺ ROSE Mars Swingby move all passes from DSS-15,54,26 to DSS-25,26,54. (2)

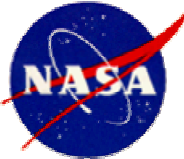
☺ SOHO Keyhole delete 2 of 13 supports at the 70M/26M and move 5 of remaining 11 supports to 34HEF/26M in week 36. Move 3 of 5 supports at 34BWG1 to 34HEF/26M. Additional support during the keyhole periods will be added on a best efforts basis at 70M/26M, 34H/26M and the 34BWG1 subnet in Mid-range Scheduling. (1,3)

☺ STB Prime science move all passes from DSS-25,34,55 to 34HEF. (3,4)

☺ ULYS move support from 34B1 to DSS-34,54. (3)

☺ VGR1 delete all passes at DSS-14,63. Reduce all pass duration at DSS-25,26 from 6 hours to 4 hours. (1,3,4)

☺ VGR2 reduce all pass duration from 8 hours to 5 hours at DSS-43,45,34. (1,2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

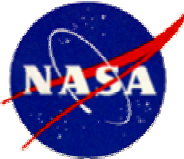
## **Events, Recommendations and Analyses**

**2006 – September (Weeks 36 - 39) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupported time on the 70M for DSS Bearing and routine maintenance, CAS, M01O MSPA with MGS, MEX bi-static and Solar corona, SOHO Keyhole event, VGR1 routine support and VGR2 ASCAL range from moderate to severe. MEX has severe unsupportable time in weeks 37 – 39. DSS Bearing maintenance at DSS-14 and routine maintenance has severe unsupportable time throughout this period. SOHO, VGR1 and VGR2 ASCAL, DTR P/B and MAGROL has moderate unsupportable time in weeks 36, 37 and 39. The unsupportable time is due to Mars missions and CAS view period overlapping with daylight maintenance, causing contention for CAS, M01O MSPA with MGS and MEX bi-static radar compounded by SOHO Keyhole event, VGR 2 DTR P/B, ASCAL and MAGROL maneuvers.**
- 2. (34HEF) The projected unsupported time for DSS maintenance is severe for this period and for MEX Orbital Science in weeks 36 and 37. MGS mapping and SOHO Keyhole event projected unsupportable time is moderate in week 37. MEX Orbital Science, MGS mapping and MRO view periods overlap with daylight maintenance and SOHO and is compounded by MRO aerobraking and near continuous support for transition to Prime Science and the 24-hour supports for RFC CAT M&E S/X-band VLBI in week 36 and SGP in week 39.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2006 – September (Weeks 36 - 39) (continued)**

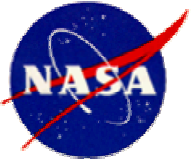


### **ANALYSES**

3. (34BWG1) Moderate to severe unsupportable time is forecast for DSS maintenance, MSGR cruise, SOHO Keyhole in week 37 and for ULYS routine support. The unsupportable time is due to MSGR, SOHO and ULYS view period overlap with daylight maintenance, NHPC and STA, STB and is compounded by RFC CAT M&E X/Ka-band VLBI 24-hour support in week 39.
4. (34BWG2) Severe to extreme unsupportable time is forecast for DSS maintenance and moderate for MRO aerobraking. The unsupportable time is due to MRO view period overlap with daylight maintenance, MEX Orbital Science, MSGR, NHPC Delta DOR, STA, STB, VGR1 and is compounded by RFC CAT M&E X/Ka-band VLBI 24-hour support in week 39.

Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.

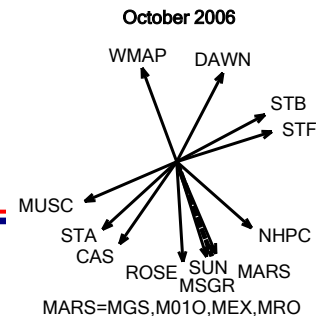




# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – October (Weeks 40 - 43)



#### EVENTS

DSS-24 approved downtime (X/X-Ka band) ending in week 42

DSS-45 approved downtime (antenna controller replacement) beginning in week 41

Cassini tour

EGS EVN J-M4 and Global VLBI quarterly epochs at DSS-14\63 beginning in week 42

GSSR Asteroid 2001 CB21 ending in week 40 and Mercury Radar in week 43

Mars Express bi-static radar in week 41 and solar corona R/S

Mars Reconnaissance Orbiter transitioning to prime science ending in week 40, DOY 279  
and solar conjunction beginning in week 40, DOY 280

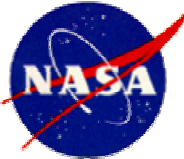
MESSENGER Delta DOR support ending in week 42, DOY 295

Rosetta Delta DOR in weeks 41 and 42 and Mars swingby

STEREO Ahead Prime Science

STEREO Behind Prime Science





# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

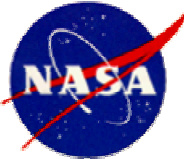
2006 – October (Weeks 40 - 43) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development reduce all support duration from 8 hours to 4 hours.
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 41 and reduce support duration from 8 hours to 4 hours in weeks 40, 41, and 43. Delete 1 of 2 PRA-GAVRT CAL supports in week 42 and reduce all support duration from 9 hours to 6 hours. (1)
- ☺ GSSR Asteroid 2001 CB21 delete 1 of 3 supports in week 40 and delete Mercury Radar support in week 42. (1)
- M01O Mapping MSPA with MGS Mapping and Beta Supplement move 3 MSPA passes from DSS-26,55 to DSS-43. Move MSPA passes with MEX R/S from DSS-14,63 to DSS-63 only. Maximize MSPA capability wherever possible. (1)
- ☺ MEX R/S MSPA with M01O Mapping, move all MSPA passes with M01O from DSS-14 to DSS-63 only. (1)
- MGS Mapping and Beta Supplement MSPA with M01O Mapping move 3 MSPA passes from DSS-26,55 to DSS-43. Maximize MSPA capability wherever possible. (1,2,4)
- ☺ MRO Transition to Prime Science move 5 of 7 passes from DSS-15,45,55,65 to DSS-26,45,55 in week 40. Move 4 solar conjunction passes from DSS-25,34,55 to 34HEF in week 40 and move 7 of 14 passes from DSS-25,34,55 to DSS-26,45,65 in weeks 41 – 43. (2)

RFC CAT M&E S/X and X/Ka delete all supports. (2,3,4)

- ☺ ROSE Cruise move all passes from DSS-26,54 to DSS-25,26,54,55. (3,4)



# **RESOURCE ALLOCATION REVIEW BOARD**

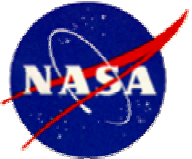
## **Events, Recommendations and Analyses**

**2006 – October (Weeks 40 - 43) (continued)**

### **ANALYSES**

1. (70M) The projected unsupportable time for DSS Bearing and routine maintenance is moderate to severe and moderate for M01O Mapping MSPA supports with MGS Mapping and MEX bi-static R/S, MEX Solar Corona, and MEX R/S MSPA with M01O Mapping. The projected unsupportable time is due oversubscription in the Mars view period and a 100 percent overlap with daylight maintenance.
2. (34HEF) Severe unsupportable time is forecast for DSS maintenance in week 40 due to 100 percent view period overlap with Mars missions and MSGR.
3. (34BWG1) Moderate to extreme unsupportable time is projected. Extreme unsupportable time is forecast for MRO solar conjunction and MSGR cruise, severe unsupportable time is projected for DSS maintenance and STA and STB prime science, and moderate unsupportable time is forecast for RFC Cat M&E X/Ka-band VLBI support. The projected unsupportable time is caused by 100 percent overlap of the daylight maintenance view period with Mars mission view periods and is further compounded by the approved downtime for DSS-24, DSS-45 and the 24-hour simultaneous RFC support.
4. (34BWG2) The projected unsupportable time for this period is moderate for DSS Maintenance, MGS Mapping and Beta Supplement MSPA with M01O, MRO and MSGR. The projected unsupportable time is caused by 100 percent overlap of the daylight maintenance view period with Mars missions, MSGR, STA and STB view period DSS-24, DSS-45 and the 24-hour simultaneous RFC support.

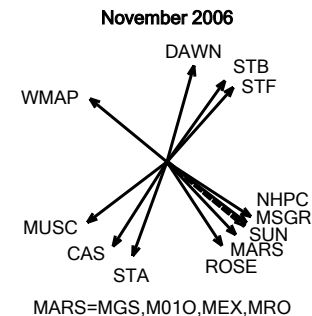
**Contention levels on the 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – November (Weeks 44 - 48)



#### EVENTS

**DSS-45 approved downtime (antenna controller replacement)**

**Cassini tour**

**Chandra ACA Dark Current measurement in week 45**

**EGS EVN J-M4 and Global VLBI quarterly epochs at DSS-14\63 ending in week 45**

**Goldstone Solar System Radar Mercury Radar in weeks 44 and 47**

**Mars Express bi-static radar in week 46 and solar corona R/S**

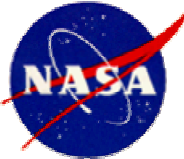
**Mars Reconnaissance Orbiter solar conjunction ending in week 45, DOY 310 and Ka-band ops and prime science beginning in week 45**

**Rosetta Mars swingby**

**SOHO Keyhole event beginning in week 47, DOY 329**

**STEREO Ahead prime science**

**STEREO Behind prime science**



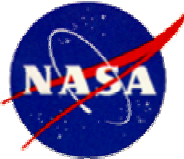
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – November (Weeks 44 - 48) (continued)

### RECOMMENDATIONS

- ☺ ATOT Mission change support duration from one 24-hour support to three 8-hour supports and move from week 45 to week 48. Delete 1 of 2 Development supports in weeks 44 – 47, delete support in week 48 and reduce all support duration from 8 hours to 4 hours. (1)
- ☺ GBRA Guest Observation delete 1 of 2 supports in week 45 and reduce support duration from 8 hours to 4 hours in weeks 45 and 46, delete all supports in weeks 44, 47 and 48. Reduce all Host country support duration from 8 hours to 6 hours at DSS-43 and at DSS-63 and move support at DSS-43 from week 48 to week 44. Delete PRA-GAVRT CAL support in weeks 44, 47 and 48 and reduce support duration from 9 hours to 6 hours in weeks 45 and 46. (1)
- ☺ GSSR Mercury Radar delete support in weeks 44 and 47. (1)
- M01O Mapping and MSPA with MGS Mapping add 3 additional MSPA passes in week 44 and 1 additional pass in week 46 at DSS-43. Delete M01O standalone passes at DSS-43 and DSS-63 in week 44. Add 3 additional MSPA passes with MRO Prime Science at DSS-43 in weeks 45, 47, 48 and 2 passes in week 46. Maximize MSPA capability wherever possible. (1)
- ☺ MEX Solar Corona move all stand alone passes from DSS-14,63 to DSS-63 only in week 44 and 45. Move 1 of 3 stand alone passes from DSS-14,63 to DSS-14 only and move the remaining 2 passes from DSS-14,63 to DSS-63 only in week 46 and 47. Move all standalone passes from DSS-14,63 to DSS-14 only in week 48. (1)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – November (Weeks 44 - 48) (continued)



### RECOMMENDATIONS

**MGS Mapping and Beta Supplement MSPA with M01O Mapping add 3 additional MSPA passes in week 44 and 1 additional pass in week 46 at DSS-43 and delete 3 of 5 standalone passes at DSS-15,25,65 in week 44 and 1 of 5 stand alone passes at 34BWG1 subnet in week 46. Move all MSPA passes with MRO Prime Science from DSS-15,65,34 to the 34BWG2 subnet. Maximize MSPA capability wherever possible. (1,2,3)**

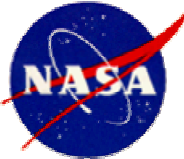
**MRO MSPA with M01O Mapping move 2 to 3 passes per week from DSS-25,24,26,34,54,55 to DSS-43 and MSPA 3 additional passes with M01O Mapping in weeks 45, 47 and 48 and 2 additional passes in week 46. Move all MSPA passes with MGS Mapping and Beta Supplement from DSS-15,65,34 to the 34BWG2 subnet. (1,2,3,4)**

**☺ NHPC Cruise move passes from DSS-24,54 to DSS-15,65. (3)**

**RFC CAT M&E S/X and X/Ka reduce supports from 24 hours to 12 hours. (1)**

**☺ SOHO keyhole event move passes from 34BWG1 to 34HEF/26M in weeks 47 and 48. Additional 2-hour ranging supports will be added at the 34BWG1 subnet on a best efforts basis in Mid-Range. (3)**

**☺ STA move passes from DSS-25,34,55 to DSS-15,65,34. (4)**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

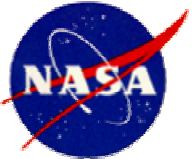
**2006 – November (Weeks 44 - 48) (continued)**



### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for DSS Bearing and routine maintenance, GBRA Host Country, MEX Radio Science and MEX MSPA with M01O. The projected unsupportable time is caused by 100 percent view period overlap between daylight maintenance and the Mars Missions and is further compounded by the two 24-hour simultaneous supports for EGS and the approved downtime for DSS-45.
2. (34BWG1) The projected unsupportable time is moderate to extreme for DSS maintenance, MGS Mapping Beta, NHPC Cruise, RFC Cat M&E S/X and X/Ka and SOHO Keyhole event. The projected unsupportable time is caused by 100 percent view period overlap of these missions and is further compounded by two 24-hour simultaneous RFC supports and the approved downtime for DSS-45.
3. (34BWG2) The projected unsupportable time is moderate to severe for DSS maintenance, MGS Mapping Beta Supplement, MRO Solar Conjunction and MSGR Cruise support. The projected unsupportable time is caused by 100 percent view period overlap of these missions and is further compounded by two 24-hour simultaneous RFC supports and the approved downtime for DSS-45.

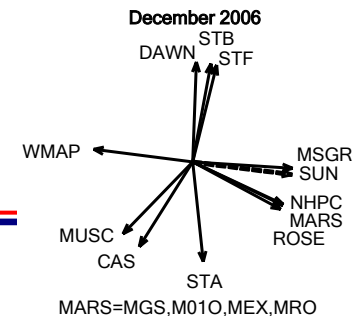
**Contention levels on the 34HEF, 34HSB, and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2006 – December (Weeks 49 - 52)



#### EVENTS

**DSS-45 approved downtime (antenna controller replacement) ending in week 49**

**Cassini tour**

**Mars Express bi-static radar**

**Mars Reconnaissance prime science and cruise Ka-band operations demo**

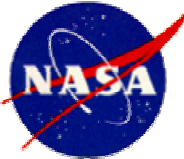
**Rosetta Mars swingby**

**SOHO Keyhole event ending in week 49, DOY 344**

**STEREO Ahead prime science**

**STEREO Behind prime science**





# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2006 – December (Weeks 49 - 52) (continued)



### RECOMMENDATIONS

**M01O Mapping and MSPA with MGS Mapping change three 70M MSPA passes with MGS to MSPA with M01O in week 49. (1,3,4)**

**MGS Mapping and MSPA with M01O Mapping delete three 70M MSPA passes in week 49 and MSPA 4 passes with MRO at DSS-25,24,26,34,54,55 in week 49 and 1 pass per week in weeks 51 and 52. Delete all standalone Mapping and Beta Supplement passes in weeks 49, 51 and 52. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,2,3,4)**

**MRO Prime Science MSPA three 70M passes with M01O in week 49. MSPA WITH MGS Mapping 4 passes at DSS-25,24,26,34,54,55 in week 49 and 1 pass per week in weeks 51 and 52. Move 5 Prime Science DSS-25,24,26,34,54,55 to 2 at DSS-14 and 3 at DSS-43 in week 50, move 6 passes from DSS-25,24,26,34,54,55 to 70M in week 51 and move 4 passes from DSS-25,24,26,34,54,55 to 3 at DSS-43 and 1 at DSS-63 in week 52.**

☺ **MSGR Cruise move 2 passes from DSS-26,34,55 to DSS-26,45,65 and move the remaining passes to the 34BWG2 subnet. (3)**

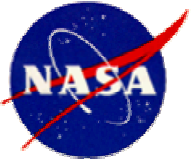
☺ **NHPC Cruise move 2 passes from the 34BWG1 subnet to 34HEF in week 49. (3)**

**RFC Cat M&E S/X and X/Ka reduce support duration from 24 hours to 12 hours. (3,4)**

**SOHO Keyhole move all passes from 70M/26M to 34HEF/26M in week. Additional support during the keyhole periods will be added on a best efforts basis at 70M/26M, 34H/26M and the 34BWG1 subnet in Mid-range Scheduling. (1)**

☺ **STA Prime Science move all passes from DSS-15,34,55 to DSS-25,45,55. (2,3,4)**





# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

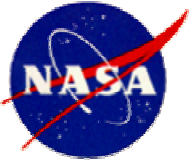
**2006 – December (Weeks 49 - 52) (continued)**



### **ANALYSES**

- 1. (70M) The projected unsupportable time is moderate for DSS Bearing and routine maintenance, M01O MSPA with MGS, MEX bi-static radar and SOHO Keyhole event. The contention is due to 100 percent view period overlap between the Mars mission and DSS maintenance compounded by 25 percent view period overlap between CAS and the Mars missions.**
- 2. (34HEF) The projected unsupportable time for this period is moderate for DSS maintenance, MEX Orbital Science and MGS. The unsupportable time is due to 100 percent view period overlap in the daylight maintenance view period and is further compounded by RFC and SGP requirements.**
- 3. (34BWG1) The projected unsupportable time is moderate to extreme for DSS maintenance, NHPC Cruise, STA Prime Science and SOHO Keyhole event. The projected unsupportable time is caused by view period overlap of 90 – 100 percent among these missions.**
- 4. (34BWG2) The projected unsupportable time is low to moderate for DSS maintenance due to view period overlap of Mars missions with maintenance and with CAS.**

**Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparation and negotiations.**

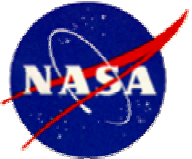


# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**



# **2007 Events, Analysis and Recommendations**

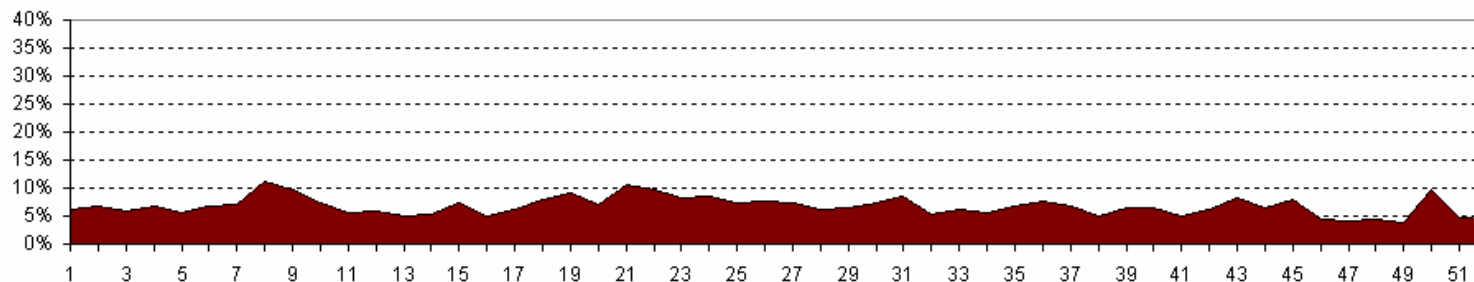


# RESOURCE ALLOCATION REVIEW BOARD

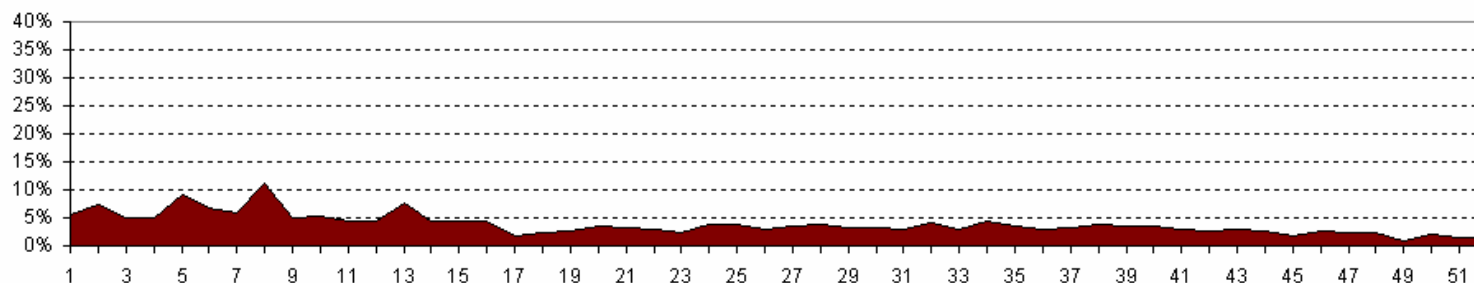
## Events, Recommendations and Analyses

### 2007 Weekly Average User Unsupportable Time

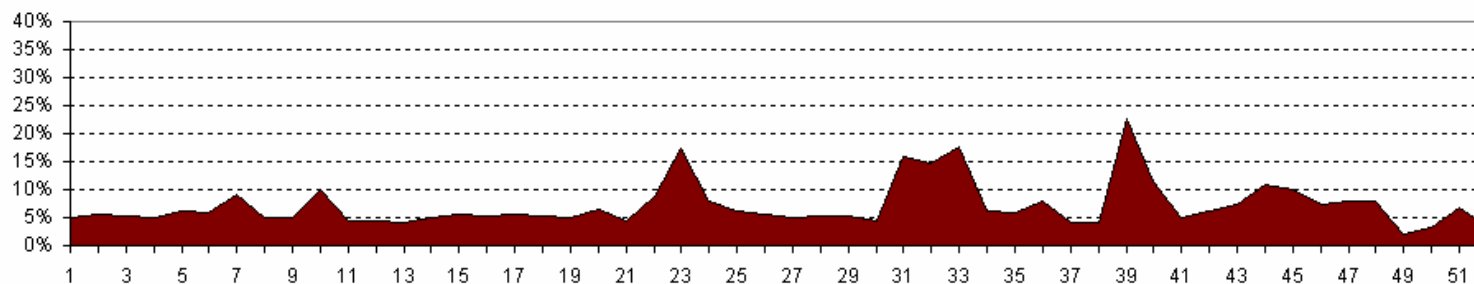
70M

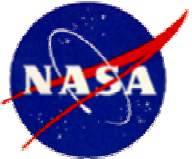


34HEF



34BWG1



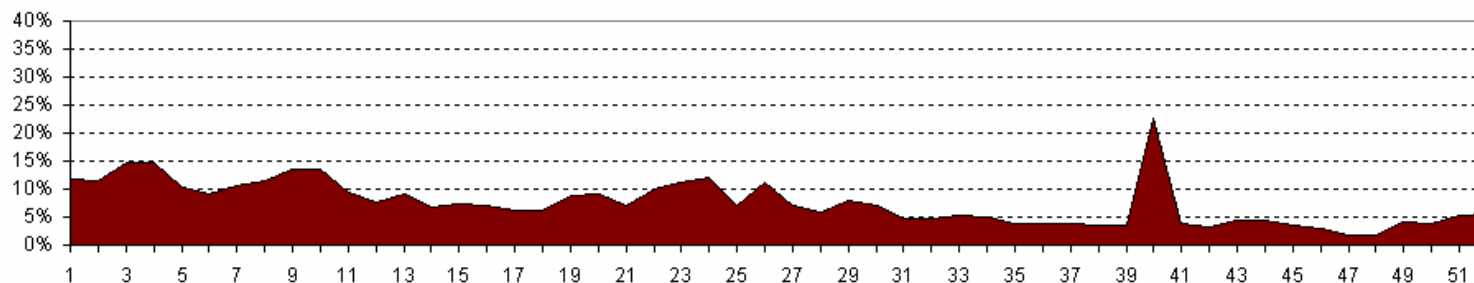


# RESOURCE ALLOCATION REVIEW BOARD

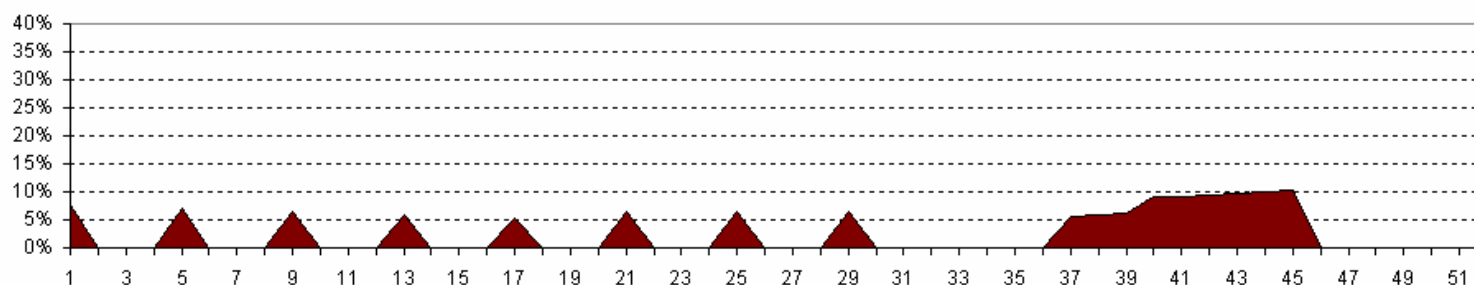
## Events, Recommendations and Analyses

### 2007 Weekly Average User Unsupportable Time

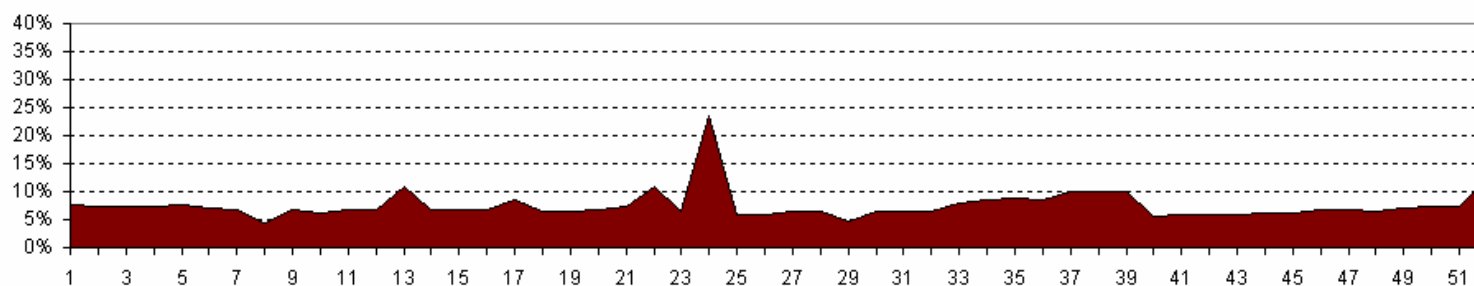
34BWG2

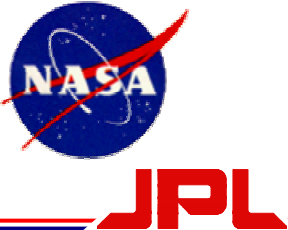


34HSB



26M

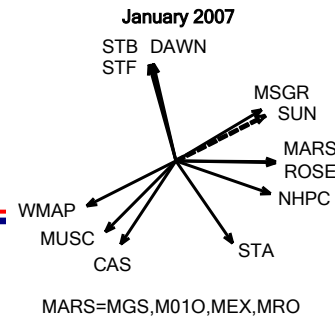




# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – January (Weeks 01 - 04)



#### EVENTS

Cassini tour

GSSR 1991 VK Asteroid observations in weeks 02 and 03

Mars Express bi-static radar in week 03 and Orbital Science

Mars Reconnaissance Orbiter Prime Science

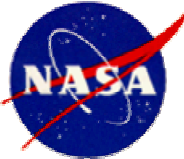
New Horizons Jupiter approach beginning in week 01

Rosetta Mars swingby support

STEREO Ahead Prime Science

STEREO Behind Prime Science

Wilkinson Microwave Anisotropy Probe TCM in week 03



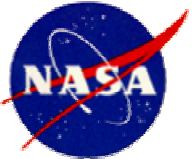
# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2007 – January (Weeks 01 - 04) (continued)

### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (3)
- ☺ GBRA Host Country delete 1 support at DSS-43 and reduce PRA-GAVRT CAL support duration from 9 hours to 6 hours in week 03. (1)
- ☺ M01O Mapping and MSPA with MGS Mapping reduce pass duration from 10 hours to 8 hours at the 70M. Reduce MSPA with MGS pass duration from 14 hours to 10 hours at DSS-25,26,55 in week 03. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1,3,4)
- ☺ MGS Mapping and with MSPA M01O reduce pass duration from 10 hours to 8 hours at the 70M. Reduce MSPA with M01O pass duration from 14 hours to 10 hours at DSS-25,26,55 in week 03. MGS MSPA 4 Mapping and Beta Supplement passes per week at DSS-25,26,55 with MRO Prime Science. (1,3,4)
- ☺ MRO Prime Science move 4 passes per week from 34BWG1,34BWG2 to DSS-25,26,55 and MSPA with MGS Mapping and Beta Supplement. Move Ka Ops Demo passes from DSS-25,34,55 to DSS-24,34,55. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (3,4)
- ☺ MSGR Cruise move passes from DSS-26,34,54 to DSS-24,34,65. (2,3,4)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

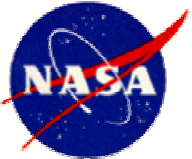
2007 – January (Weeks 01 - 04) (continued)



### RECOMMENDATIONS

RFC CAT M&E X/Ka reduce support duration from 24 hours to 12 hours at DSS-26\55,26\34 in weeks 03 and 04. (2,3,4)

☺ ROSE Mars swingby move 3 of 7 passes from DSS-15,24,54 to DSS-15 and move remaining 4 passes to the 70M. (1,2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2007 – January (Weeks 01 - 04) (continued)**

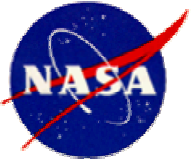


### **ANALYSES**

- 1. (70M) Moderate unsupportable time is forecast for DSS Bearing maintenance in weeks 01 and 04 and for routine maintenance in weeks 02 and 03. Contention is due to view period overlap with the Mars missions and daylight maintenance view period.**
- 2. (34HEF) Moderate unsupportable time is forecast for DSS maintenance. Contention is due to view period overlap with the Mars missions and daylight maintenance view period and is compounded by 24-hour SGP support.**
- 3. (34BWG1) The overall projected unsupportable time for this period is moderate to extreme. DSS maintenance, DSN Antenna Calibrations and MSGR Cruise are in contention due to view period overlap during daylight maintenance view period and is compounded by RFC CAT M&E X/Ka requirements in week 03 and 04.**
- 4. (34BWG2) Moderate to severe unsupportable time is forecast for DSS maintenance, M01O, MGS and MSGR Cruise. Contention is due to M01O requiring seven 14-hours passes in week 03 compounded by RFC CAT M&E X/Ka requiring one DSS-26\55,26\34 24-hour support in weeks 03 and 04.**

**Contention levels on the 26M and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations.**

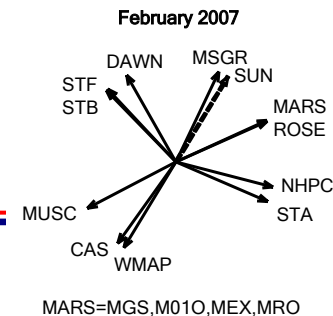




# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – February (Weeks 05 - 08)**



#### **EVENTS**

**ATOT A01 Astrometry 24-hour semi-annual event in week 07**

**Cassini tour**

**EGS Calibration in week 05, EVN J-M4 quarterly epoch at DSS-14\63 in week 08, and  
Global VLBI 24-hour quarterly epoch at DSS-14\63 in week 07**

**GSSR Mercury Radar observations at DSS-14 in weeks 07 and 08**

**Hayabusa (MUSES-C) Earth re-entry phase in week 08**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar in week 07 and Orbital Science**

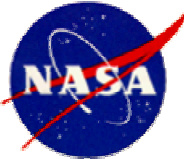
**New Horizons Jupiter flyby approach and Delta DOR**

**Rosetta Mars swingby support**

**SOHO Keyhole event beginning in week 08, DOY 052**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2007 – February (Weeks 05 - 08) (continued)

### RECOMMENDATIONS

- ☺ ATOT Development delete 2 supports in week 08. (1)
- ☺ CHDR move 7 of 21 passes from 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (3)
- ☺ DSN Antenna calibrations reduce support duration from 8 hours to 4.5 hours at DSS-43 and DSS-63. (1)
- ☺ GBRA Guest Observation delete 1 of 2 supports at the 70M and delete Host Country support at DSS-43 in week 08. Delete PRA-GAVRT CAL support in week 05 and reduce support duration from 8 hours to 4 hours in weeks 06 – 08. (1)
- ☺ GSSR GODR delete support at DSS-14/15 in week 05. Reduce Mercury Radar support duration from 7 hours to 6 hours in weeks 07 and 08 and delete 1 of 2 supports in week 08. (1,2)
- ☺ M01O Mapping MSPA 2 of 7 passes with MRO Prime Science at the 70M in week 08. (1)
- ☺ MGS Mapping and Beta Supplement MSPA 6 passes per week at DSS-25,26,55 with MRO Prime Science. (4)
- ☺ MRO Prime Science MSPA 2 of 3 passes with M01O Mapping at the 70M in week 08. Move 6 Prime Science passes per week from 34BWG1,34BWG2 to DSS-25,26,55 and MSPA with MGS Mapping and Beta Supplement. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (1,3)



# RESOURCE ALLOCATION REVIEW BOARD

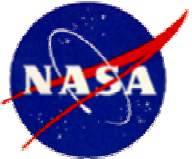
## Events, Recommendations and Analyses

2007 – February (Weeks 05 - 08) (continued)



### RECOMMENDATIONS

- ☺ MSGR Cruise move all passes from DSS-26,34,55 to DSS-26,45,55. (3)
  - ☺ ROSE Mars swingby move 3 of 7 passes in weeks 05 and 06, and 4 of 7 passes in weeks 07 and 08 from DSS-15,24,54 to DSS-25, and move remaining passes to the 70M. (1,2,3)
- RFC CAT M&E S/X reduce support duration from 24 hours to 12 hours in weeks 05 and 06. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

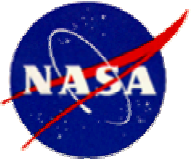
**2007 – February (Weeks 05 - 08) (continued)**



### **ANALYSES**

- 1. (70M) Moderate to severe unsupportable time is forecast for DSS Bearing and routine maintenance, GBRA observations, GSSR and M01O. Contention is due to requests supporting DSS Bearing and routine maintenance, GBRA Host country, GRBA PRA-GAVRT CAL, GSSR Mercury, and M01O in week 08 and view period overlap during periods for maintenance.**
- 2. (34HEF) Moderate unsupportable time is forecast for DSS maintenance. Contention is due to RFC CAT M&E S/X and SGP Crustal Dynamics .**
- 3. (34BWG1) Moderate to severe unsupportable time is forecast for DSN Antenna Calibrations, DSS maintenance and MSGR Cruise. Contention is due to view period overlap during periods for routine maintenance and MSGR Cruise and MRO Prime Science.**
- 4. (34BWG2) Moderate unsupportable time is forecast for DSS maintenance. Contention is due to MGS Mapping and Beta Supplement, MRO Ka Ops Demo, MRO Prime Science and MSGR Cruise having view period overlap with maintenance.**

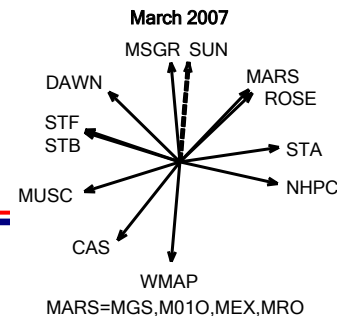
**Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – March (Weeks 09 - 13)



#### EVENTS

Cassini tour

Chandra ACA Dark Current measurement week 10

GSSR Mercury Radar observations at DSS-14 in weeks 09

Hayabusa (MUSES-C) re-entry phase

Mars Reconnaissance Orbiter Prime Science

Mars Express bi-static radar in week 11 and Orbital Science

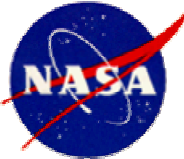
New Horizons Jupiter flyby in week 10, DOY 069

Rosetta Mars swingby in week 09, DOY 058 and ending in week 13, DOY 085

SOHO Keyhole event ending in week 10, DOY 064

STEREO Ahead Prime Science

STEREO Behind Prime Science



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2007 – March (Weeks 09 - 13) (continued)

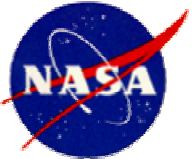


### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (3)
- ☺ DSN Antenna calibrations reduce support duration from 8 hours to 4.5 hours at DSS-24 in week 09. (3)
- ☺ GBRA PRA-GAVRT CAL delete support in week 09. (1)
- ☺ GSSR GODR delete support at DSS-14/15 in week 09. (1,2)
- ☺ M01O Mapping MSPA 2 of 4 passes at the 70M with MRO Prime Science. (1)
- ☺ MGS Mapping and Beta Supplement MSPA 6 of 7 passes with MRO Prime Science at DSS-25,26,55 in weeks 09, 12 and 13. (4)
- ☺ MRO Prime Science MSPA 2 of 3 passes with M01O Mapping at the 70M. Move 6 of 14 passes from 34BWG1,34BWG2 to DSS-25,26,34,55 and MSPA with MGS Mapping and Beta Supplement in weeks 09, 12 and 13. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (1,3)
- ☺ MSGR Cruise move 1 of 3 passes from DSS-26,34,54 to 34BWG1 and move remaining 2 passes to DSS-26,55. (3,4)

**RFC CAT M&E X/Ka reduce support duration from 24 hours to 12 hours at DSS-26\55,26\34 in weeks 09 and 10. (3,4)**

- ☺ ROSE Mars swingby move 3 of 7 passes from DSS-15,24,54 to DSS-15 and move remaining 4 passes to the 70M. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

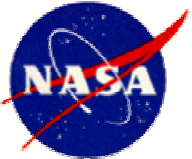
**2007 – March (Weeks 09 - 13) (continued)**



### **ANALYSES**

- 1. (70M) Moderate to severe unsupportable time is forecast for DSS Bearing maintenance, routine maintenance, GSSR observations and M01O. Contention is due to oversubscription in the Mars missions view period and is compounded by GBRA observations and GSSR observations.**
- 2. (34HEF) Moderate unsupportable time is forecast for DSS maintenance and GSSR GODR. Contention is due to SGP Crustal Dynamics B-M4, H-M4 and W-M4 and view period overlap with MEX Orbital Science and MGS Mapping and Beta Supplement.**
- 3. (34BWG1) Moderate to severe unsupportable time is forecast for DSN Antenna Calibrations, DSS maintenance, MSGR Cruise, RFC CAT M&E X/Ka and RFC X/Ka Pass. Contention is due to requirements for MRO Prime Science and view period overlap with maintenance and is compounded by RFC CAT M&E X/Ka.**
- 4. (34BWG2) Moderate to severe unsupportable time is forecast DSS maintenance, M01O, MGS and RFC CAT M&E X/Ka. Contention is due to view period overlap in periods of maintenance and compounded by RFC CAT M&E X/Ka.**

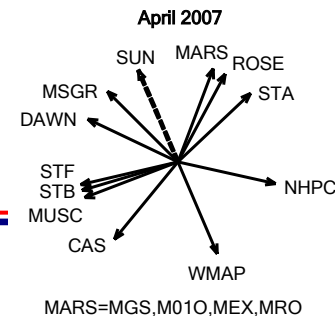
**Contention levels on the 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – April (Weeks 14 - 17)



#### EVENTS

**ATOT A01 Imagery observation event at DSS-43 in week 17**

**Cassini tour**

**GSSR Mercury Radar observations at DSS-14 in weeks 14**

**Hayabusa (MUSES-C) Earth re-entry phase**

**Mars Express bi-static radar in week 15 and Orbital Science, occultation beginning in week 17**

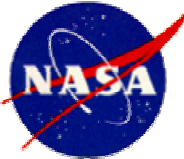
**Mars Reconnaissance Orbiter Prime Science**

**New Horizons Jupiter departure**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**





# RESOURCE ALLOCATION REVIEW BOARD

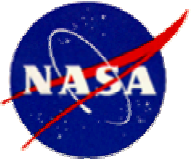
## Events, Recommendations and Analyses

2007 – April (Weeks 14 - 17) (continued)



### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (2)
  - ☺ GBRA PRA-GAVRT CAL delete 1 of 2 supports and reduce the remaining support duration from 9 hours to 4 hours in week 17. (1)
  - ☺ MGS Mapping and Beta Supplement MSPA 4 of 7 passes per week with MRO Prime Science at DSS-25,26,54,55. (2,3)
  - ☺ MRO Prime Science move 4 passes from 34BWG1 to DSS-25,26,54,55 and MSPA with MGS. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (2)
  - ☺ MSGR Cruise move passes from DSS-26,34,54 to 34HEF. (2,3)
- RFC CAT M&E X/Ka reduce support duration from 24 hours to 18 hours in weeks 15 and 16 and reduce the X/Ka Pass support duration from 6 hours to 5 hours in week 14. (2,3)
- ☺ STA Prime Science move passes from DSS-26,34,55 to DSS-14,26,55. (2)
  - ☺ STB Prime Science move passes from DSS-26,34,55 to DSS-14,26,55. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

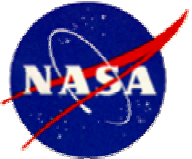
**2007 – April (Weeks 14 - 17) (continued)**



### **ANALYSES**

1. (70M) Moderate unsupportable time is forecast for DSS Bearing maintenance, routine maintenance, and MEX Occultation. Contention is due to view period overlap with M01O, MRO and MEX during periods of maintenance.
2. (34BWG1) Moderate to severe unsupportable time is forecast for DSN Antenna Calibrations, DSS maintenance, MGS Mapping and Beta Supplement, MSGR Cruise and RFC CAT M&E X/Ka. Contention is due to requirements for Stereo Ahead and Behind requiring DSS-34 and compounded by RFC CAT M&E X/Ka.
3. (34BWG2) Moderate unsupportable time is forecast for DSS maintenance and MGS Mapping and Beta Supplement. Contention is due to view period overlap with MGS, MRO during periods of maintenance and is compounded by RFC CAT M&E S/X.

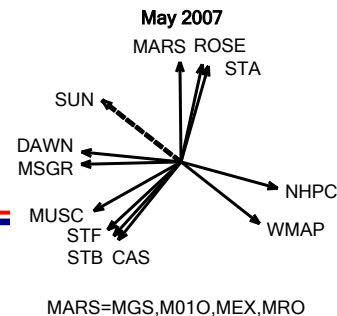
Contention levels on the 34HEF, 34HSB, and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – May (Weeks 18 - 22)



#### EVENTS

Cassini tour

EGS Global VLBI quarterly epoch at DSS-14\63 in week 21

GSSR 1862 Apollo Asteroid observations in week 19

Hayabusa (MUSES-C) Earth re-entry phase

Kepler Launch and commissioning in week 22, DOY 152

Mars Express bi-static radar in week 20 and Occultation support ending in week 22

Mars Reconnaissance Orbiter Prime Science

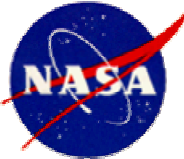
New Horizons Jupiter departure

SOHO Keyhole event beginning in week 21, DOY 142 and ending week 22, DOY 151

STEREO Ahead Prime Science

STEREO Behind Prime Science

Wilkinson Microwave Anisotropy Probe TCM in week 19



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2007 – May (Weeks 18 - 22) (continued)



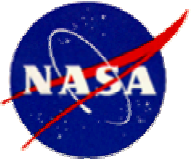
### RECOMMENDATIONS

- ☺ ATOT Development reduce support duration from 8 hours to 4 hours. (1)
- ☺ DSN Antenna Calibration reduce support duration from 8 hours to 4.5 hours at DSS-14, DSS-43 and DSS-63. (1)
- ☺ GBRA Guest Observation reduce all support duration from 8 hours to 4 hours in weeks 18, 20 – 22, and delete 1 support in week 19. Delete PRA-GAVRT CAL support in weeks 18 and 19. (1)
- ☺ M01O Mapping MSPA two 10-hour passes per week with MRO Prime Science and reduce pass duration from 10 hours to 8 hours at the 70M in weeks 18 and 19. (1)
- ☺ MEX Occultation and MSPA with M01O Mapping reduce pass duration from 11 hours to 10 hours at the 70M in weeks 18 and 19. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MRO Prime Science MSPA 2 of 3 passes per week with M01O Mapping at the 70M in weeks 18 and 19. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (1)
- ☺ MSGR Cruise move passes from DSS-26,34,54,55 to 34HEF. (2)

**RFC CAT M&E X/Ka reduce support duration from 24 hours to 18 hours in week 22. (2)**

☺ STA Prime Science move passes from DSS-26,34,55 to DSS 26,45,55 in week 22. (2)

☺ STB Prime Science move passes from DSS-26,34,55 to DSS 26,45,55 in week 22. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

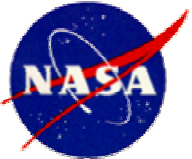
**2007 – May (Weeks 18 - 22) (continued)**



### **ANALYSES**

- 1. (70M) Moderate to severe unsupportable time is forecast for DSS Bearing maintenance, routine maintenance, GBRA PRA-GAVRT CAL and MEX Occultation. Contention is due to DSS-14 requirements for M01O Mapping, MEX Occultation and MRO Prime Science and is compounded by GBRA PRA-GAVRT CAL, GSSR Asteroid 1862 Apollo.**
- 2. (34BWG1) Moderate to severe unsupportable time is forecast for DSS maintenance, KEPL Launch, MGS Mapping and Beta Supplement and MSGR Cruise. Contention is due to requirements for KEPL Launch, MGS Mapping and Beta Supplement, STA Prime Science and STB Prime Science and compounded by RFC CAT M&E X/Ka.**

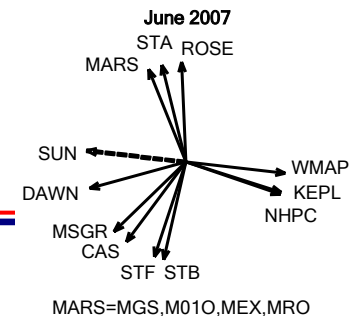
**Contention levels on the 34BWG2, 34HEF, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – June (Weeks 23 - 26)



#### EVENTS

DSS-54 downtime (X/X Ka-band installation) beginning in week 23

ATOT Mission observation quarterly event in week 24

Cassini tour

EGS Calibration and EVN J-M4 quarterly epoch at DSS-14\63 in week 23

GSSR Mercury Radar observations in weeks 24 and Mercury RSD in week 25

Hayabusa (MUSES-C) Earth re-entry and EOPM in week 23, DOY 156

Kepler commissioning and quarterly roll maneuver

Mars Express bi-static radar and Orbital Science beginning in week 24

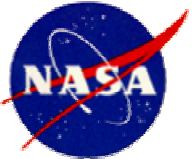
Mars Reconnaissance Orbiter Prime Science

MESSENGER Venus flyby in week 23, DOY 155

New Horizons Jupiter departure and Beacon support

STEREO Ahead Prime Science

STEREO Behind Prime Science



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

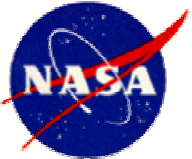
2007 – June (Weeks 23 - 26) (continued)



### RECOMMENDATIONS

Approved DSS-54 downtime move start date in week 23 from DOY 155 to 157 (To accommodate Hayabusa (MUSES-C) Earth re-entry and MSGR Venus flyby). (2)

- ☺ CHDR move 4 of 14 passes from DSS-24,34 to 26M and increase pass duration from 1 hour to 2 hours. (2)
- ☺ DSN Antenna Calibration reduce support duration from 8 hours to 4.5 hours at DSS-25, DSS-26, DSS-34 and DSS-55. (2,3)
- ☺ DSS Maintenance reduce support from 8 hours to 6 hours at DSS-24 and at DSS-34. (2)
- ☺ GBRA Guest observation delete 1 of 2 supports in week 24, move PRA-GAVRT CAL support from week 24 to week 25 and reduce support duration from 9 hours to 7 hours in weeks 23,25,26. (1)
- ☺ M01O Mapping MSPA 3 passes per week with MRO Prime Science at the 70M in weeks 23 and 24. (1)
- ☺ MGS Mapping and Beta Supplement passes move 2 to 3 passes from DSS-24,34,55 to 34HEF and reduce all pass duration from 10 hours to 8 hours. MSPA 3 passes per week with MRO Prime Science at DSS-25,26,55 and reduce pass duration from 14 hours to 10 hours. (2,3)



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

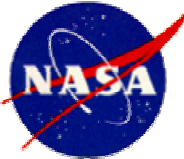
2007 – June (Weeks 23 - 26) (continued)



### RECOMMENDATIONS

- ☺ MRO Prime Science MSPA three 8-hour passes per week with M01O Mapping at 70M in weeks 23 and 24. Move 3 of 14 passes per week from 34BWG1,34BWG2 to DSS-25,26,55 and MSPA with MGS Mapping and Beta Supplement. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (1,2)
- ☺ MSGR Cruise move all passes from DSS-26,34,55 to 34HEF. Move all Venus flyby-2 passes from DSS-26,34,55 to 34HEF. (2,3)
- ☺ SOHO move 2 passes from DSS-24,34 and 4 passes from 26M to DSS-27 in week 25. (2)
- ☺ STA Prime Science move passes from DSS-26,34,55 to DSS-26,45,55. (2)
- ☺ STB Prime Science move passes from DSS-26,34,54 to 34HEF,70M. (2,3)





# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

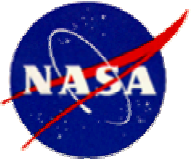
**2007 – June (Weeks 23 - 26) (continued)**



### **ANALYSES**

- 1. (70M) Moderate to severe unsupportable time is forecast for DSS Bearing maintenance, routine maintenance, and GBRA observations. Contention is due to oversubscription and is compounded by EGS, GBRA , GSSR Mercury RSD GBT and GSSR Mercury observations.**
- 2. (34BWG1) Moderate to extreme unsupportable time is forecast for DSN Antenna Calibrations, DSS maintenance, IMAG., IMAG SCI Load, MGS Mapping and Beta Supplement, MSGR Cruise, MSGR Venus Flyby 2, SOHO, STA Prime Science and STB Prime Science. Contention is due to the DSS-54 downtime in weeks 23 – 30 and Kepler Commissioning requirements.**
- 3. (34BWG2) Moderate to severe unsupportable time is forecast for DSN Antenna Calibrations, DSS maintenance, KEPL Quart Roll, MEX Orbital Science, MGS Mapping and Beta Supplement, MSGR Cruise, MSGR Venus Flyby 2, and STB Prime Science. Contention is due to KEPL Commissioning, KEPL Quart Roll requirements.**

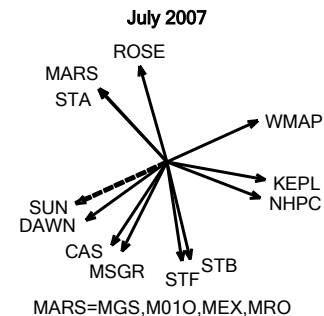
**Contention levels on the 34HEF, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – July (Weeks 27 - 30)



#### EVENTS

**DSS-54 approved downtime (X/X Ka-band installation) ending in week 30**

**Cassini tour**

**Chandra ACA Dark Current measurement week 27**

**GSSR Mercury RSD observations in week 30**

**Kepler Science operations beginning in week 27**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar and Orbital Science**

**New Horizons Beacon support**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**



# RESOURCE ALLOCATION REVIEW BOARD

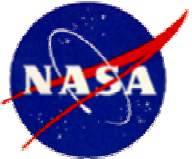
## Events, Recommendations and Analyses

2007 – July (Weeks 27 - 30) (continued)



### RECOMMENDATIONS

- ☺ IMAG move 7 of 13 passes from 34BWG1 to DSS-46/45 in weeks 28 and 29.
  - ☺ M01O Mapping MSPA two to three 10-hour standalone passes per week with MGS Mapping and Beta Supplement at the 70M.
  - ☺ MGS Mapping and Beta Supplement move two to three 10-hour passes per week from DSS-24,34,55 to the 70M and MSPA with M01O Mapping.
  - ☺ MSGR Cruise move passes from DSS-26,34,55 to 70M in weeks 27 – 29.
- RFC CAT M&E X/Ka reduce support duration from 24 hours to 12 hours in weeks 27 and 28.
- ☺ STA Prime Science move all 3.5 and 4.3-hour passes to the 34HEF subnet.
  - ☺ STB Prime Science move all 3.5 and 4.3-hour passes to the 34HEF subnet.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2007 – July (Weeks 27 - 30) (continued)**

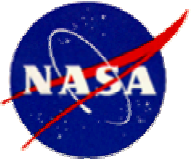
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### **ANALYSES**

**(34BWG1) Severe to extreme unsupportable time is forecast for DSS Maintenance, MGS Mapping and MSGR due to MRO requirements.**

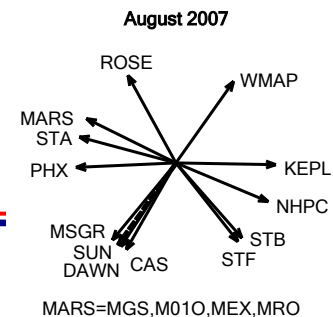
**Contention levels on the 70M, 34HEF, 34BWG2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – August (Weeks 31 - 35)**



#### **EVENTS**

**ATOT A01 Imagery observation event at DSS-43 in week 35**

**Cassini tour**

**GSSR Mercury Radar observations and Mercury RSD in week 31**

**Kepler Science operations**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar and Orbital Science**

**New Horizons Cruise and Beacon support**

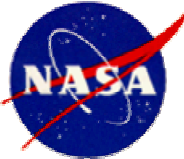
**Phoenix Launch in week 31, and TCM in week 33 and 34**

**SOHO Keyhole event beginning in week 34, DOY 232 and ending week 35, DOY 244**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**

**Wilkinson Microwave Anisotropy Probe TCM in week 35**



# RESOURCE ALLOCATION REVIEW BOARD

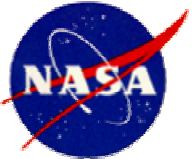
## Events, Recommendations and Analyses

2007 – August (Weeks 31 - 35) (continued)



### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from the 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours. (2)
- ☺ M01O Mapping MSPA four 10-hour standalone passes with MGS Mapping and Beta Supplement passes at the 70M in week 31. (2)
- ☺ MEX Orbital Science move all passes from DSS-15,25 to 34BWG2 in weeks 31 and 35. Maximize MSPA capability to meet requirements will be implemented wherever possible. (1)
- ☺ MGS Mapping and Beta Supplement MSPA 4 passes with M01O Mapping and reduce pass duration from 14 hours to 10 hours at the 70M in week 31. Add four 4-hour standalone passes at the 34BWG2 in week 31. MSPA 3 standalone passes with MRO Prime Science at 34BWG2 in weeks 32 and 33. (2)
- ☺ MRO Prime Science move passes from the 34BWG1,34BWG2 to 34BWG2,34HEF. MSPA 3 of 14 supports with MGS Mapping and Beta Supplement at the 34BWG2 in weeks 32 and 33. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (2)
- ☺ MSGR Cruise move 2 to 3 passes from DSS-25,34,54 to the 34HEF in weeks 31 and 35. (2)
- ☺ PHX Launch move 7 of 21 passes in week 32 and 5 of 15 in week 33 from the 34BWG1 to the 34HEF. (3)
- ☺ STA Prime Science move all 4.3-hour passes to the 34HEF in week 31. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

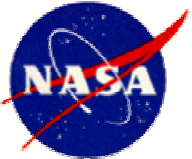
**2007 – August (Weeks 31 - 35) (continued)**



### **ANALYSES**

1. (34HEF) Moderate unsupportable time exists for MEX Orbital Science and SGP due to viewperiod overlap requirements supporting the Mars missions in weeks 31 and 35.
2. (34BWG1) Moderate to Extreme unsupportable time is forecast for CAS Tour, CHDR, DSN Antenna Cal, DSS Maintenance, IMAG, IMAG SCI Load, MGS Mapping and Beta Supplement, MRO Ka/Ops Demo, MRO Prime Science, PHX Launch, PHX TCM, RFC CAT M&E X/Ka and STA Prime Science. Contention is primarily due to PHX Launch, PHX TCM and Mars viewperiod oversubscription.
3. (34BWG2) Moderate unsupportable time is forecasted for DSN Maintenance due to oversubscription.

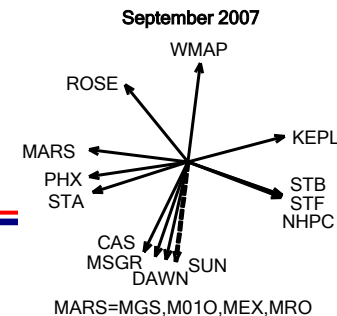
Contention levels on the 70M, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – September (Weeks 36 - 39)**



#### **EVENTS**

**ATOT A01 Astrometry semi-annual event at DSS-43 in week 37**

**Cassini tour**

**Goldstone Solar System Radar Mercury Radar observations in week 39**

**Kepler Quarterly roll maneuver in week 37 and science operations**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar and Orbital Science**

**New Horizons Beacon support ending in week 37 and checkout beginning in week 38**

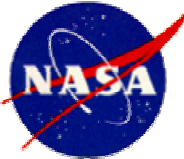
**Phoenix ACS NAV in week 37, TCM-2 support in week 39**

**SOHO HSO continuous support beginning in week 36**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**





# RESOURCE ALLOCATION REVIEW BOARD

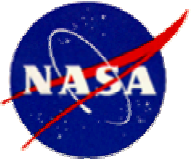
## Events, Recommendations and Analyses

2007 – September (Weeks 36 - 39) (continued)



### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from the 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours.
- ☺ M01O Mapping MSPA seven 10-hour passes with MRO Prime Science at the 70M in weeks 36, 38 and 39.
- ☺ MGS Mapping and Beta Supplement move two to three 10-hour passes from 34BWG1 to the 34HEF in weeks 38 and 39.
- ☺ MRO Prime Science move 7 of 14 passes from the 34BWG1,34BWG2 to the 70M and MSPA with M01O Mapping and move the remaining 7 passes to the 34BWG2 subnet in weeks 36, 38 and 39. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process.
- ☺ MSGR Cruise move three 8-hour passes from DSS-26,34,54 to DSS-26,45,55 in weeks 37 – 39.
- ☺ STA Prime Science move seven 4.3-hour passes from DSS-26,34,55 to the 34HEF in weeks 37 – 39.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2007 – September (Weeks 36 - 39) (continued)**

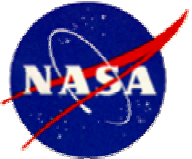
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### **ANALYSES**

**(34BWG1) Moderate to extreme unsupportable time is forecast for Image MGS Mapping and Beta Supplement, MSGR Cruise, PHX Cruise, RFC CAT M&E X/Ka and STA primarily due to oversubscription in the Mars view period.**

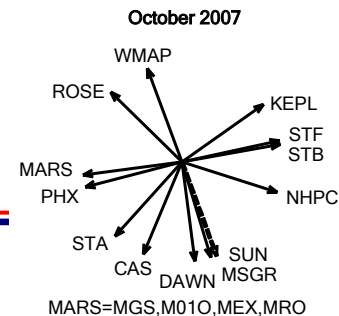
**Contention levels on the 34HEF and 34BWG2 subnets are workable and should resolve during final schedule preparations and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – October (Weeks 40 - 43)**



#### **EVENTS**

**Cassini tour**

**Goldstone Solar System Radar Mercury Radar observation in week 41 and Asteroid 2340 Hathor observation in week 43**

**Kepler Science operations**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar and Orbital Science**

**MESSENGER DSM-2 maneuver in week 42**

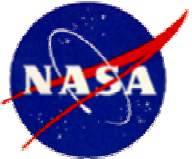
**New Horizons checkout**

**Phoenix TCM-2 in week 40**

**SOHO continuous HSO support ending in week 43**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**



# RESOURCE ALLOCATION REVIEW BOARD

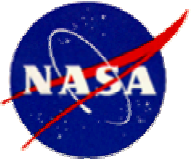
## Events, Recommendations and Analyses

2007 – October (Weeks 40 - 43) (continued)



### RECOMMENDATIONS

- ☺ CHDR move 7 of 21 passes from the 34BWG1 to 26M and increase pass duration from 1 hour to 2 hours in week 40. (2)
- ☺ GSSR GODR move DSS-14/15 support from week 40 to 41. (2)
- ☺ MEX Orbital Science move seven 8-hour passes from DSS-15,25 to the 70M and MSPA with MRO Prime Science in week 40. Maximize MSPA capability to meet requirements will be implemented wherever possible. (2)
- ☺ MRO Prime Science move 7 of 14 passes from the 34BWG1,34BWG2 to the 70M subnet and MSPA with MEX Orbital Science passes and move the remaining passes to the 34HEF in week 40. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (2)
- ☺ MSGR move two to four 8-hour Cruise passes from DSS-26,34,54 to DSS-26,45,55. (1,2)
- ☺ STA Prime Science move seven 4.3-hour passes from DSS-26,34,55 to the 34HEF. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

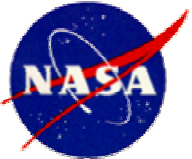
**2007 – October (Weeks 40 - 43) (continued)**



### **ANALYSES**

- 1. (70M) Moderate contention is forecast for DSN maintenance and MSGR DSM-2 due to oversubscription on the MSGR maneuver day DOY 298.**
- 2. (34BWG1) Moderate to Severe contention is forecast for DSN Maintenance, MGS Mapping and Beta Supplement and PHX TCM due to oversubscription of the Mars view period, primarily due to PHX TCM support in week 40 and increased MGS requirements.**

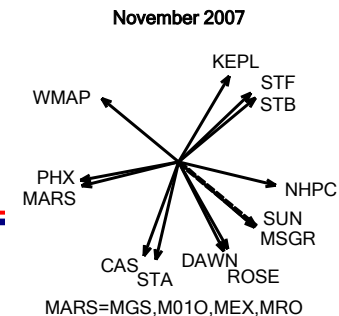
**Contention levels on the 34BWG2, 34HEF, 34HSB, and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – November (Weeks 44 - 48)**



#### **EVENTS**

**Cassini tour**

**Chandra ACA Dark Current measurement week 45**

**EGS Global VLBI quarterly epoch at DSS-14\63 in week 45 and EVN Calibration, EVN J-M4 quarterly epoch at DSS-14\63 in week 46**

**Goldstone Solar System Radar Mercury observation in week 44**

**Kepler Science operation**

**Mars Reconnaissance Orbiter Prime Science**

**Mars Express bi-static radar and Orbital Science**

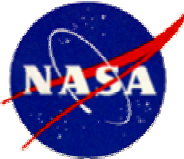
**New Horizons checkout ending in week 44, and Beacon support**

**Rosetta Earth 2 swingby beginning in week 44 and ending in week 48**

**SOHO continuous HSO support ending in week 46, DOY 316 and Keyhole event beginning in week 47, DOY 323 and ending in week 48, DOY 332**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**



# RESOURCE ALLOCATION REVIEW BOARD

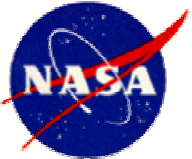
## Events, Recommendations and Analyses

2007 – November (Weeks 44 - 48) (continued)



### RECOMMENDATIONS

- ☺ ATOT Development delete 1 of 2 supports in week 44. (1)
- ☺ GBRA PRA-GAVRT CAL delete support in week 44. (1)
- ☺ GSSR Mercury Radar move support from week 44 to week 45. (1)
- ☺ M01O Mapping MSPA 7 passes with MRO Prime Science at the 70M. (2)
- ☺ MRO Prime Science move 7 of 14 passes from the 34BWG1,34BWG2 to the 70M and MSPA with M01O Mapping. Support to meet 12-hour uplink requirements will be implemented in the Mid-range scheduling process. (2)
- ☺ MSGR Cruise move 7 passes from DSS-24,34,54 in week 44 and 3 passes in weeks 47 and 48 to the 34HEF subnet. (2)
- ☺ NHPC Checkout move all passes from the 70M to DSS-43,63 in week 44. (1)
- ☺ STA Prime Science move 7 passes from DSS-24,34,55 to the 34HEF subnet in weeks 44 and 45. (2)
- ☺ STB Prime Science move 7 passes from DSS-24,34,54 to the 34HEF subnet in weeks 44 and 45. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

**2007 – November (Weeks 44 - 48) (continued)**

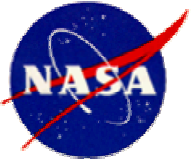


### **ANALYSES**

- 1. (70M) Moderate contention is forecast for DSS maintenance due to view period overlap with NHPC and oversubscription at DSS-14 by CAS and ground based missions (ATOT, GBRA and GSSR).**
- 2. (34BWG1) Moderate contention is forecast for DSS maintenance, MGS Mapping and Beta Supplement, PHX Cruise and SOHO due to oversubscription by Mars missions.**

**Contention levels on the 34BWG2, 34HEF, 34HSB, and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**

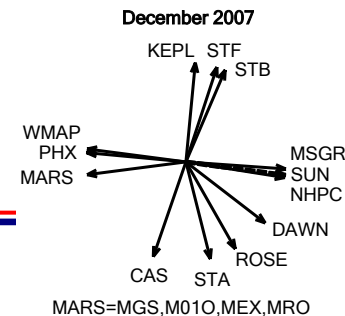




# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

### 2007 – December (Weeks 49 - 52)



#### EVENTS

**ATOT A01 Imagery observation event at DSS-43 in week 51**

**Cassini tour**

**Goldstone Solar System Radar Asteroid 3200 Phaethon observations in weeks 50 and  
Mars Radar observations**

**Kepler Quarterly Roll maneuver in week 51, and science operations**

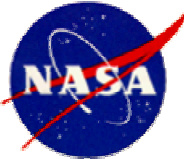
**Mars Express bi-static radar and Orbital Science**

**Mars Reconnaissance Orbiter Prime Science**

**New Horizons Beacon support**

**STEREO Ahead Prime Science**

**STEREO Behind Prime Science**



# RESOURCE ALLOCATION REVIEW BOARD

## Events, Recommendations and Analyses

2007 – December (Weeks 49 - 52) (continued)



### RECOMMENDATIONS

☺ DSN Antenna Calibration reduce from 8 hours to 4.5 hours at DSS-25, DSS-26 and DSS-55. (3)

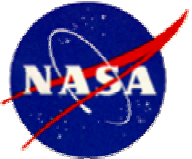
☺ GBRA PRA-GAVRT CAL delete 1 of 2 supports in week 50. (1)

☺ GSSR GODR delete support at DSS-14/15 in week 50. (1)

☺ MEX Orbital Science move all passes from DSS-15,25 to DSS-15,26 in week 52.  
Maximize MSPA capability to meet requirements will be implemented wherever possible. (3)

☺ MSGR Cruise move passes from DSS-26,34,54 to 34HEF. (2,3)

RFC CAT M&E X/Ka reduce support duration from 24 hours to 12 hours in weeks 51 and 52. (2,3)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

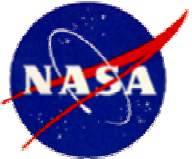
**2007 – December (Weeks 49 - 52) (continued)**



### **ANALYSES**

1. (70M) Moderate to severe unsupportable time is forecast for DSS Bearing, routine maintenance, GBRA PRA-GAVRT CAL, and GSSR GODR. Contention is due to view period overlap with the Mars missions and daylight maintenance view period, compounded by GBRA observations and GSSR observations.
2. (34BWG1) Moderate unsupportable time is forecast for DSS maintenance, MGS and SOHO. Contention is due to view period overlap with the Mars missions and daylight maintenance compounded by RFC CAT M&E X/Ka requirements in week 51 and 52.
3. (34BWG2) Moderate unsupportable time is forecast for DSS maintenance, KEPL, and MEX. Contention is due to view period overlap with the Mars missions and daylight maintenance compounded by RFC CAT M&E X/Ka requirements in week 51 and 52.

Contention levels on the 34HEF, 34HSB, and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Supplemental Materials**



**Supplemental materials may be found on the RAPSO Homepage at:**

**<http://rapweb.jpl.nasa.gov>**

- ◆ **Ongoing Users Negotiated Requirements**  
Individual User Loading Profiles
- ◆ **Resource Allocation Review Board Information**  
Supplemental Yearly Information